ĀYURVEDA
THE ANCIENT INDIAN SCIENCE OF HEALING

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Dedicated

to all those saints and scholars
who kept this science alive

Foreword

Dr Ashok Majumdar's book *Āyurveda—The Ancient Indian Science of Healing* is sure to be a boon to students of the Indian science of healing as well as the seekers of health and well-being. The learned author is a very well-known scholar physician and has succeeded in making this book a concise yet comprehensive book on Ayurvedic Medicine. It is written in a vivid style with due scientific temper. It can be regarded as a complete book on Ayurvedic system of Medicine because it covers almost all the aspects of Āyurveda putting forward well reasoned scientific interpretations to classical concepts of ancient India in the light of present day Medical Science. This handy manual will prove an easy as well as very useful reading for students and researchers as well as for practitioners of Alternative Medicine.

The present book contains chapters on Natural Philosophy, the Bioregulatory Principles of Tridosha Doctrine, the Inner Physiology of the body, Ayurvedic Pharmacodynamics, the Ayurvedic Concept of Pathology and Clinical Diagnostics including the unique Pulse Science (*Nadi-Shastra*). It has useful chapters on the Principles of Cure, *Panchkarma* and *Prana*. The usefulness of the book is enhanced with the inclusion of a Health Village Plan and a rich Bibliography.

I wish the book widest possible circulation that it richly deserves. I am sure this publication would be of great value to its readers both in India as well as abroad. I invoke the Divine Grace of God and the choicest blessings of Sri Gurudev Sivanandaji upon the author as well as upon the readers of this book. Dr Ashok Majumdar has rendered a great service to all sections of society by the publication of this book.

Hari Om!
Swami Chidānanda
Head, Divine Life Society
Haridwar, UP

Preface

Āyurveda, like traditional Chinese medical science, is one of the most ancient medical sciences of the world. Today, it is well-recognized by the Government of India and the World Health Organization (WHO). It is a vast storehouse of knowledge. In this age of fast progressing science, it can still fairly boast of imparting knowledge of the unknown to the West.

The Ayurvedic Science's basic feature is its holistic approach to treat human beings as a complex whole to its environment and it tries to restore harmony among the human being, plant and environment—a feat which the science continues to preserve even today. Āyurveda mostly treats with natural remedies.

It may interest the readers to know how the author came to study Āyurveda after having his graduation in modern medical sciences.

I belong to a family of Ayurvedic physicians, which has been continuing the practice of this science for ten generations. I had a curiosity to understand Āyurveda, to find whether the science had a strong scientific footing or is it simply a traditional medical practice which is nothing but quackery. For this reason, I took further postgraduation studies in Āyurveda at the Postgraduate Institute of Indian Medicine, Banaraṣ Hindu University.

As the fundamental concepts of the basic principles of Āyurveda are very complicated, understanding the science proves difficult.

Many scholars tried to explain Āyurveda in English language by keeping in view the advancement of the modern medical sciences but till now there is not a single book in the market written in a simple language for general public and Western scholars alike which uses the minimum complicated and tough Sanskrit technical terms to explain Āyurveda.

Here an attempt has been made to present the indepth study of the complex concept of Āyurveda in a simplified way so that it could be understood by everyone.

I owe a debt of gratitude to my Ayurvedic teachers at Banāras Hindu University. This includes Prof. Y.N. Upādhyāya, Prof. P.V. Sharmā, Prof. K.N. Udupā, Prof. P.J. Despande, Prof. Dāmodar Sharma Gaur, Prof. Jyotirmitra, Prof. R.S. Singh, Prof. K.C. Chunekar, Prof. L.V. Guru, Prof. R.H. Singh and many others who helped and guided me in understanding Āyurveda.

I am also very much indebted to Mahāmahopādhyaya Dr Gopināth Kavirāj and Yogirāj Satya Charan Lāhiri, grandson of Yogiraj Shyama Charan Lahiri, of Vārānasi who guided me in understanding *Yoga, Tantra* and other philosophies which helped me to understand the depths of Āyurveda from the point of view of ancient philosophies.

I also convey my gratitude to my son Ashesh Majumdar for encouraging me in writing this book. Also to my grandfather, late Kaviraj Hari Ranjan Majumdar and my father, Padma Shree Kaviraj Ashutosh Majumdar for their constant encouragement and guidance.

Lastly, I convey my warmest thanks to those scholars, Indian and Western, who tried to explain Āyurveda through their works in English. Especially, D.N. Roy and Birgit Heyn for enabling me to present this difficult subject in a simple language and thereby provide a clear, simplified scientific picture of the rich heritage of this most ancient Indian Medical Science—Āyurveda.

ASHOK MAJUMDAR

Preview

ÃYURVEDA: ITS BRIEF FUNDAMENTAL CONCEPTS

Ãyurveda is one of the most ancient medical sciences in the world. It adopts a holistic approach, treats a human being as a complex whole and strives for harmony between a human being and the entire environment around him.

In the *Vedas*, references relating to Ãyurveda are available, especially in the *Atharvaveda*, though we find no mention of the term Ãyurveda as such. We presume, therefore, that when later on medical science developed, it formed a separate subject by itself and came to be known as Ãyurveda, the Science of Life.

The philosophy of Ãyurveda is mainly discussed in the ancient classical text, *Charaka Samhitã*, which closely follows the *Vedãnta* and early *Sãmkhya* and *Vaisesika* in respect of the composition of the human being, from the most subtle to the gross.

There are three main texts in Ãyurveda, known as ***Brihat-Trayi***, these are *Charaka Samhitã, Susruta Samhitã* and *Astãnga Hridaya*.

A little after the classical text period, Ãyurveda came to be organized under eight topics as follows:

1.	Kãyã-Chikitsã	Medicine
2.	Shalya-Tantra	Major surgery
3.	Shãlãkya-Tantra	Minor surgery, like Eye, ENT, etc.
4.	Agada-Tantra	Toxicology
5.	Bhuta-Vidya	Psychiatry
6.	Kaumãra-Bhritya	Paediatrics and Gynaecology
7.	Rasãyana-Tantra	Geriatrics (the therapy for the aged)
8.	Vãjikarana-Tantra	Sexology (the therapy for sexual disorders)

In the Buddhist period, the practice of Ãyurveda flourished and spread outside India. However, it suffered a gradual decline under Mughal and British rules. After Independence in 1947, people started looking back to their own heritage and revival of Ãyurveda started taking place.

In the study of Ãyurveda, the study of *Sãmkhya-Yoga* and *Nyãya-Vaisesika* is of great relevance.

The fundamental principle of Ãyurveda is the treatment of a living body which is composed of five basic elements or 'Building Blocks' of existence, known as *Panchabhuta,* which are *Kshiti* (earth), *Ap* (water), *Teja* (fire), *Mãrut* (air) and *Vyom* (space).

· According to Ãyurveda, the functions of human body are governed by three bio-regulating principles, namely *Vãyu, Pitta* and *Kapha.* When these three principles are in normal state (or in perfect balance) in the body, they are called ***Tri-dhãtu.*** However, they are never found in perfect equilibrium in the body; hence they are called *Doshas* because their disequilibrium in the body is the root cause of disease. So these three Bio-regulating Principles are commonly called *Tridosha,* which may be translated as the three main sources causing disease.

Vãyu (also called Vãta) is the regulating or motivating force which is generated in the body, because of its association with the soul (*Ãtma*), and is purveyed, or flows, along the entire nervous system spread out all over the body.

Pitta is responsible for all metabolic processes; it belongs to every reaction in which heat is generated. *Pitta* is responsible for the energy released by chemical and bio-chemical processes. The main carriers of *Pitta* in the body are enzymes, co-enzymes, hormones and vitamins. *Pitta* is the heating principle in the body operating through the neuro-hormonal mechanism.

Kapha is the formative, preservative and cooling principle. It lends to the body firmness, stability, flexibility and calmness; *Kapha* aids anabolism and so builds up the tissues. One of the essential functions of *Kapha* is to ensure permeability of the intracellular and extracellular fluid through the body. *Kapha* regulating principles also depend on the level of enzymes, co-enzymes, hormones, vitamins, etc., which work in association with the parasympathetic regulatory system for the construction, development and separation of waste materials in the body.

Disturbance in the equilibrium of the three bio-regulating principles, *Vãyu, Pitta* and *Kapha* are treated by administering substances available in nature such as medicinal plants and herbs, animal products and minerals which carry in them six types of tastes or *Rasas* with their related properties. Each *Rasa* is formed of two types of *Bhutas.* The six *Rasas* and their respective *Bhutas* are:

	Rasas	***Bhutas***
1.	Madhura	Prithvi and Jala
2.	Amla	Prithvi and Tejas
3.	Lavana	Jala and Tejas
4.	Katu	Vãyu and Tejas
5.	Tikta	Vãyu and Ãkãsa
6.	Kasãya	Vãyu and Prithvi

The ways in which the six *Rasas* are made up of the five *Bhutas* have been worked out empirically from observations of their actions on the human body; for example, *Madhura* with its leading elements *Prithvi* and *Jala* is a builder of the body tissues that are formed of *Prithvi* and *Jala.* A sweet tasting substance will strengthen *Kapha Dosha* (made from *Prithvi* and *Jala*) but will weaken the *Pitta Dosha* (made from *Tejas*) and *Vãyu Dosha* (made from *Vãyu* and *Ãkãsh*).

The effects of medication on the *Tridosha* can be discovered from their six types of *Rasas*. They are as follows:

Rasas which reduce Doshas	***Dosha***	***Rasas which increase Doshas***
Madhura Amla Lavana	Vāyu	Katu Tikta Kasāya
Madhura Tikta Kasāya	Pitta	Amla Lavana Katu
Katu Tikta Kasāya	Kapha	Madhura Amla Lavana

The final outcome depends on the interaction of the elements (*Bhutas*) present in the six *Rasas* with those of the three *Doshas* (*Vāyu, Pitta* and *Kapha*) functioning in the human body. Thus we find that in Āyurveda, the *Panchabhautic-Sharir* is being treated with the *Panchabhautic-Dravyas* (substances) available in nature.

The basic concept of Āyurveda is to treat the complete human system including the mind, and for this reason, it is called holistic medical science.

Āyurveda seeks to create a condition in the body where microbic agents are not able to multiply. The healing process is supported in these ways:

1. The first step is to purify the body, and this process is known as *Samsodhana*, wherein, body impurities are very quickly expelled; it is very useful in chronic diseases. This procedure in Āyurveda is called the *Panchakarma* Therapy.
2. The second step is the *Samsamana* therapy, where disturbed or vitiated *Doshas—Vāyu, Pitta* and *Kapha*—are calmed down.
3. The third step consists of reinforcing the powers of resistance of the mind and the body, so that the patient can overcome diseases by building up his own power of resistance by following proper *Āhāra* (diet) and *Vihāra* (code of conduct like exercises, sleep, following seasonal rules, etc.).

Āyurveda holds that the body can be treated by what we eat; food are remedies, plants are healing drugs, and diet is the best therapy.

It may especially be noted that so far *Vāyu, Pitta* and *Kapha* in Āyurveda were described in English as humours or energies. Basically, *Vāyu* or *Vāta* is energy which cannot be humour and, on the other hand, *Kapha* in any way cannot be called as an energy. The study of Āyurveda by taking *Tridosha* as both humour and energy is very confusing and misleads a scholar to understand the subject matter, that is why, so far, *Vāyu, Pitta* and *Kapha* in Āyurveda have remained unexplained.

In this book, by adopting a different pattern of thinking, the term bioregulatory principles has been used. By using this new term, I found that the concept of Āyurveda becomes crystal clear and very scientific. The study of this book will further reveal the truth.

LIST OF ABBREVIATIONS

The following abbreviations have been used in this book.

a	ah, e.g., Angur, All
ã	Aah, e.g., Aahaar
AH	Astãnga Hridaya
AS	Astãnga Samgraha
BR	Bhaisajya Ratnãvali
CS	Charaka Samhitã
Ch	Chikitsãsthãna
In	Indriyasthãna
Ka	Kalpasthãna
MK	Madhyam Khanda
Ni	Nidãnasthãna
SS	Susruta Samhitã
SaS	Sãrangadhara Samhitã
Si	Siddhisthãna
Su	Sutrasthãna
SK	Sãmkhyakãrikã
Sã	Sãrirasthãna
UK	Uttarakhanda
Ut	Uttarasthãna
YR	Yogaratnãkara
RT	Rasataragini
RM	Rasãmrita
RTS	Rasatantrasãr
RYS	Rasa Yoga Sãgar

MAJUMDARS—TEN GENERATIONS IN THE SERVICE OF ĀYURVEDA

Generation	*Name*	*Short Background History*
I	Govindarām	• S/o Parasurām. Learnt Āyurveda from Tarka-Panchānan in Chittāgong and practised in Suchakradandi village under Patiā Thāna at Chittāgong (now in Bangladesh)
II	Dayārām	• S/o Govindarām. Practised Āyurveda in Chittāgong
III	Anantaram	• S/o Dayārām. Practised Āyurveda in Chittāgong
IV	Rām Prashād	• S/o Anantarām. Practised Āyurveda in Chittāgong
V	Rām Ballabh	• S/o Rām Prashād. Practised Āyurveda in Chittāgong
VI	Kāli Dās	• S/o Rām Ballabh. Practised Āyurveda in Chittāgong. Copied many books and some of the manuscripts written by him around 1795 A.D. are at present with Ashok Majumdar
VII	Sasthi Charan	• S/o of Kāli Dās. Travelled like a *sādhu* all over India on foot. Reached Jammu and Kashmir State and became Royal Physician of King Ranvir Singh (s/o King Golāp Singh) • Later he was Royal Physician, Aide Kone and *Dharmapitā* (religious father) of King Pratap Singh • Previously there was no Ayurvedic dispensary for the public and he started it there for the first time in Jammu and Kashmir state. He lived for 53 years (1835-1889 A.D.) • King Pratap Singh's many handwritten letters are with Ashok Majumdar. As the papers of the letter became crispy and to protect it as historical letters, he gave it to Dr Karan Singh s/o King Pratap Singh so that they remain preserved. King Pratap Singh always used to refer to him as Shri Shri (11 times) Dharmapita, Shri Babuji Maharaj Shri Babu Sasthi Charanji
VIII	Hari Ranjan	• S/o Sasthi Charan. Had his MA (Botany) from Presidency College (Calcutta University) • He learnt Āyurveda from Uma Charan Bhattacharya, immediate disciple of famous Ayurvedic Physician in Bengal, Gangādhar Kavirāj • He came to Delhi and for sometime he was Principal of the reputed Ayurvedic and Unāni Tibbiā College, founded by great nationalist leader, Hakim Ajmal Khan • Later, he started private practice in Āyurveda which was not allowed. He was the first person to start private practice in Āyurveda in Delhi. Before him practice was allowed only in Government Municipal Dispensaries • He was one of the most leading physicians in Delhi, before the actual entry of antibiotics around 1944 in Delhi

(Contd)

Generation	Name	Short Background History
VIII	Hari Ranjan	• He started manufacture of Ayurvedic medicines in the name of Majumdar Ayurvedic Pharmaceutical works where products were famous among physicians and the public for its genuine quality
IX	Ashutosh	• He is a leading Ayurvedic Practitioner in Delhi • He was Principal of A & U Tibbia College, Delhi • He was honoured with the title of Padma Shree by the Govt. of India in 1969 • He was President of the Central Council of Indian Medicine from 1980 to 1984 • He was honorary Ayurvedic Physician to six former Presidents of India
X	Ashok	• Studied in Maulānā Azād Medical College and did his MBBS from Delhi University • He did his Doctor of Ayurvedic Medicine (DAyM) now conferred as MD (Āyurveda) from Banaras Hindu University, a three year Postgraduate degree course • He is the first MBBS in India who did his PhD in Āyurveda in 1981 • He went to Indonesia as WHO (World Health Organization) consultant in Traditional Medicine in 1985 • Has written the book, *Āyurveda: The Ancient Indian Science of Healing* published by Wheeler Publishing, Delhi • Another book, "Home Remedies in Āyurveda" is to be published by Wheeler Publishing, Delhi • Practising in Delhi as Alternative Medicine and Stress Relaxation Consultant in addition to the practice of Āyurveda

Contents

1

General Introduction

Ãyurveda, an ancient Oriental medical science has been practised in India since even before the birth of Buddha, i.e., before 557 B.C. Also popularly known as a sub-branch of *Atharvaveda,* this medical science was developed in close association with natural environment. It uses products available in nature to remedy various ailments of the human body. Its approach is to protect, cure and prolong human life. Over the years Ãyurveda has developed as a popular science of life.

The philosophy of Ãyurveda is discussed mainly in the ancient classical text, the *Charaka Samhitã.* Charaka's philosophy closely follows the *Vedãnta* and early *Sãmkhya* philosophy, while Susruta follows the later *sãmkhya.* Vãgbhata, the third member of the 'Great Trio', who wrote great classical texts on Ãyurveda and compiled the works of Charaka and Susruta seems to be predominantly influenced by Buddhist thought.

Various Ãyurvedic textbooks including the *Vedas* (the most ancient books of wisdom in India) enumerate the details and use of medicinal plants in treatment. The total number of such plants referred to in some of these texts are as follows:

Table 1.1 **Number of plants described in the *Vedãs, Samhitãs* and certain *Nighantus***

S.No.	*Texts*	*No. of medicinal plants*
1	Vedas	150
2	Charaka Samhitã	526
3	Susruta Samhitã	573
4	Astãnga Hridaya	902
5	Bhãvaprakãsha Nighantu	450
6	Madanapãla Nighantu	480
7	Kaiyãdeva Nighantu	450
8	Sodhala Nighantu	499

A little after the period of classical texts, the Āyurvedic medical practice became organized and branched into eight specialized subjects which are enumerated in Table 1.2.

Table 1.2 Branches of Āyurveda

S.No.	Specialized subjects	English equivalent terms
1.	Kāya-Chikitsā	Internal Medicine or practice of medicine
2.	Shalya-Tantra	Surgery and midwifery (together)
3.	Shālākya-Tantra	Minor surgery (treatment of eyes, ears, nose, throat, teeth and jaws)
4.	Agada-Tantra	Toxicology (study of poisons)
5.	Bhuta-Vidyā	Psychiatry (treatment of mental diseases —diseases of spirits—by Māntra and Tantra)
6.	Kumāra-Bhritya	Paediatrics and Gynaecology
7.	Rasāyana-Tantra	Geriatrics (the study of diseases of the old age —treated with excellent herbal tonics)
8.	Vājikarana-Tantra	Sexology (the science of sex—ailments treated with drugs, herbal formulations, sexual hygiene and treatment of sexual disorders. It is also a science of Aphrosidiacs)

Though references related to Āyurveda are available in the *Atharvaveda*, nowhere in the *Vedās*, one of the most ancient sacred books in India, do we find any mention of the term Āyurveda. Āyurveda developed as a systematic science at a later date and some material was incorporated from *Atharvaveda*.

EVOLUTION OF ĀYURVEDA

The legends connected with the origin and development of Āyurveda during the *Vedic* period are interesting. These find a brief enumeration in the *Charaka Samhitā* and the *Susruta Samhitā*.

Brahmā, the creator of the universe evolved the science of Āyurveda by meditation and taught Prajāpati Daksha.

Prajāpati Daksha imparted this knowledge to the twin-brother Gods Ashwins, who became divine physicians. From them the science descended to Indra, the learned king of Gods.

Indra, in turn, taught Āyurveda to many rishis—the saint pupils, who approached him—out of compassion to humanity. Two of these pupils, sage Bhāradwāja and sage-king Deodās Dhanwantari became prominent instructors.

Sage Bhāradwāja taught Āyurveda to Punarvāsu Ātreya, who later formed the Ātreya School or the School of Physicians. The latter, the ascetic king Deodās Dhanwantari (who is said to have been the incarnation of the physician-God Dhanwantari) formed the Dhanwantari School or the School of Surgeons.

Of these two schools, the great exponents of the school of physicians were the six disciples of sage Ātreya—Agnivesha, Bhela, Jatukarna, Parāsara, Hārita and Kshārpāni. Each of them wrote a comprehensive work known after his name on the Āyurvedic practice of medicine.

Agnivesha, the best known disciple of Punarvāsu Ātreya wrote the *Agnivesha-Samhitā* before 6th century A.D. This book was revised by Charaka in the 1st century A.D. Charaka is said to have been the trusted physician of the king Kanishka. However, he could not complete his task and left it at a point in the chapter "*Chikitsāsthāna*". Later in 8th century A.D. a scholar belonging to Kashmir, Dridhabala, son of Kapilabala, added 17 chapters called *Siddhisthāna* and *Kalpāsthāna*, to complete Charaka's book—the *Charaka Samhitā*.

The exponents of the School of Surgeons were the disciple of Dhanwantari, the king of Vārānasi. The main amongst others were, Susruta, Bhojà, Gopura, Karavirya, Aupadhenava, Aurābhra, Vaitaran, Rakshita, etc. Each of them wrote a comprehensive work on the practice of surgery and midwifery, some of these works are still available and references from these and many other ancient works still occur extensively in later works.

Like the *Charaka Samhitā*, *Susruta Samhitā* was also written around the same period before 6th century A.D. In contrast with the *Agnivesha Samhitā* which is primarily a book on general medicine, Susruta's work deals mainly with surgical matters, where we get a detailed information about surgical instruments of ancient India. Later, supplementary portion called the *Uttara-Tantra* was added by some anonymous writer. In the present day the complete work, inclusive of the supplement is known as the *Susruta Samhitā*.

However, in order to distinguish between the two Susrutas, the original Susruta has sometimes been designated by the old commentators as *Vriddha-Susruta*, the elder Susruta. The younger Susruta, Susruta II has been identified by Dr Hornle as Nāgārjuna, the well-known Buddhist patriarch. If that be so, then the date would practically coincide with that of Charaka, namely in the 1st century A.D.

During the spread of Buddhism, there was a sharp development in the Āyurvedic practice, but later tremendous decline took place during the Moghul and British rules. After the independence of India, in 1947, people looked back to their own cultural heritage and the revival of Āyurveda resulted.

PRESENT STATUS

As on January 1990, there were 6202 licensed Āyurvedic pharmacies in the country and the number of licensed pharmacies holding loan licenses was 606. The number of the *Unāni* and *Siddha* pharmacies were 346 and 375 respectively. In India the infrastructure of Āyurveda as on April, 1992 stands as shown in Table 1.3.

The Government of India has given equal status to Āyurveda graduates who are at par with the modern medical graduates. The Government has created a separate Directorate for Indigenous Systems of Medicine in the Health Ministry (from March, 1995) to fully utilize the potential of Āyurveda and other alternate medical sciences in the National Health Programmes. In recent times great interest in Āyurveda has developed in the western world.

Table 1.3 **Infrastructure of Āyurveda**

S.No.	*Status*	*Total*
1.	Hospitals	1,485
2.	Beds	17,093
3.	Registered Practitioners	3,15,719
4.	Dispensaries	12,839
5.	Āyurvedic Colleges	100
6.	Students Admission capacity	3,947
7.	Post graduate Institutions	25
8.	Students Admission capacity	314

Source: The source of this data is from the article 'Status of Āyurvedic System of Medicine in India' by Dr S.K. Mishra, Hony. Spl. Commissioner (ISM), Ministry of Health & Family Welfare, New Delhi, published in the souvenir 'International Convention on Āyurveda', (1992), organized by the All India Ayurvedic Congress, New Delhi.

Nine important texts are grouped under three heads for the study of Āyurveda. These are shown in Fig. 1.1.

I. Brihat-Trayi: Three major classical texts are:
   1. Charaka Samhitā
   2. Susruta Samhitā
   3. Astānga-Hridaya and Astānga-Samgraha

II. Laghu-Trayi: Three minor texts are:
   1. Mādhava Nidāna
   2. Sārangadhara Samhitā
   3. Bhāva Prakāsha

III. Three other important texts which are often referred to are:
   1. Chakradatta
   2. Yogaratnākara
   3. Bhaisajya Ratnāvali

Fig. 1.1

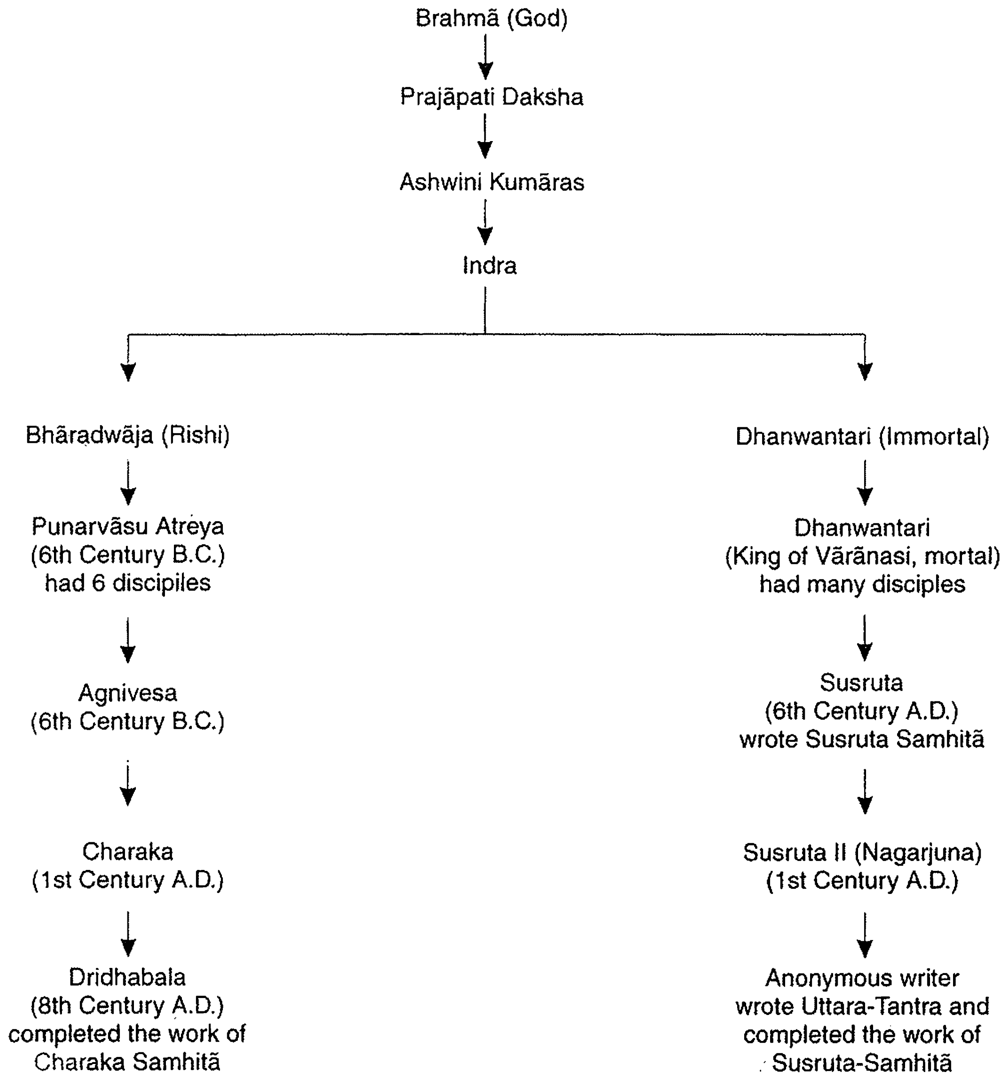


Fig. 1.2 *Geneology of the teachers*

CHRONOLOGICAL DATES

In brief the chronological dates of Ãyurvedic authors and their commentators are given in Table 1.4.

Table 1.4 Chronological dates of Āyurvedic Authors and Commentators

S.No.	*Authors and Commentators*	*Date (Approx.)*	*Remarks*
1.	Agnivesha	6th–7th Century B.C.	Wrote Agnivesa Samhitā. Later revised by Charaka and supplemented by Dridhabala
2.	Bhela	6th–7th Century B.C.	Contemporary of Agnivesa and wrote Bhela Sa*mhitā*
3.	Susruta	6th–7th Century B.C.	Wrote Susruta Samhitā
4.	Charaka	1st Century A.D.	Revised Agnivesa Samhitā in his name and left it incomplete
5.	Susruta II (Nagarjuna)	1st Century A.D.	Recompiled works of Susruta I, the Susruta Samhitā
6.	Vāgbhata I	Early 7th Century A.D.	Wrote the whole of Astānga Samgraha in prose
7.	Mādhava	7th Century A.D.	Wrote Mādhava Nidāna
8.	Dridhabala	8th Century A.D.	Completed works of Charaka Samhitā
9.	Vāgbhata II	9th Century A.D.	Wrote Astānga Hridaya
10.	Chakrapāni	11th Century A.D. (1060 A.D.)	Wrote the text Chakradatta and was the commentator for Charaka and Susruta
11.	Gayādāsa	11th Century A.D.	Commentator of Susruta Samhitā
12.	Dalhana	12th Century A.D.	Commentator of Susruta Samhitā
13.	Indu	about 1220 A.D.	Commentator of Astānga Samgraha
14.	Arundatta	about 1220 A.D.	Commentator of Astānga Hridaya
15.	Vijaya Raksita	about 1240 A.D.	Commentator of Mādhava Nidāna
16.	Srikantha	1260 A.D.	Commentator of Mādhava Nidāna
17.	Sārangadhara	14th Century A.D.	Wrote Sārangadhara Samhitā
18.	Sivadāsa	15th Century A.D.	Commentator of Chakradatta
19.	Bhāva Misra	16th Century A.D.	Wrote Bhāva Prakāsha
20.	Gangādhara	19th Century A.D.	Commentator of Charaka Samhitā

2

Natural Philosophy

GENERAL CONCEPT OF THE PHYSICAL WORLD

To understand the philosophical basis of Āyurveda, it is very essential to have a clear idea of the *Sāmkhya* philosophy and the concept of *Panchabuta* (also known as *Panchamahābhuta*)—the basic 'Building Blocks of Existence'.

The six philosophical systems in the Indian Philosophy are known as the *Sad-Darshanas* which are derived from the Upanishadas. They are, *Sāmkhya-yoga, Nyāya-vaisesika* (originally two separate philosophies but later amalgamated), *Purva-mimānsā* and *Uttara-mimānsā* (or *Vedānta*). In the study of Āyurveda, the knowledge of *Sāmkhya-yoga* and *Nyāya-vaisesika* is of significance in understanding the finer aspects of the subject, the basis on which it has developed and these cannot possibly be understood by doing comparative studies with the modern medical knowledge.

Āyurveda is deeply related to the Indian cultural heritage. This is why it becomes difficult to explain Āyurveda on modern lines without having a clear knowledge of *Sāmkhya-yoga* and *Nyāya-vaisesika* philosophies.

In ancient times the Āyurvedic practitioners used to arrive at a conclusion through a scientific methodology known as *Darsanas,* a term which means the method by which the truth is manifested. *Darsana* means a science where the facts of natural phenomena are collected and classified and their natural relations are determined. This is then followed by a description of their sequence and knowledge. For them, the understanding of nature's phenomenon could be arrived at by perceptual observation, conceptual knowledge or institutional experience. Āyurveda accepts all true scientific research findings like *Āptopadesh,* as the facts stated by the ancient seers (saints or *rishis*).

Sāmkhya philosophy is based on the theory of transformation. *Sāmkhya* does not acknowledge a creator or any act of creation. It explains the existence of all things or substances as, a mutual relationship between the two basic principles, *Purusha* and *Prakriti.* The study of yoga on the other hand is the practical aspect of understanding *Sāmkhya* philosophy.

In *Sāmkhya* philosophy, *Purusha* is known as *Ātman* or *Jiva* also, and is considered to be conscious of its universal spirit principle, known as the *Paramātmā.* On the other hand *Prakriti*

is known to be unmanifested and unconscious in nature and is the womb of all biological development around the world and is a dynamic principle.

The two principles *Purusha* and *Prakriti* act upon one another and thus operate jointly. In an energy packed state of tension, the *Prakriti*, the matter principle undergoes transformation, but the spirit principle remains unaltered.

The matter principle (*Prakriti*) possesses three leading qualities (*Gunas*) whereas the spirit principle (*Purusha*) is without these qualities. *Prakriti* preserves a balanced tension between *Sattwa, Rajas* and *Tãmas*, the three leading qualities which is a pre-creative stage.

Sattwa (essence) represents the fine structure of substances and the well-spring of consciousness. *Rajas* (activity) represents change, alteration and is a quality of dynamics and the basis of energy itself. *Tãmas* (inertia) represents the quality of resistance, all negative and passive actions, the characteristics of which are rough, coarse and heavy.

The three qualities (*Gunas*) are imperishable basic qualities of the matter principle (*Prakriti*). They cannot be separated from each other and they cannot operate on their own. It is only through the presence of the spirit principle (*Purusha*) that manifestation of matter takes place. When one of the three qualities (*Gunas*) become more prominent, the other two become correspondingly weaker. This is how *Sãmkhya* philosophy explains the coming into being of the physical world.

The three *Antahkaranah's* the 'Inner Organs' in the human body are *Buddhi* or *Mahat* (Intellect), *Ahamkãra* (Ego), and *Manas* (Mind). These are the three psyche qualities manifested due to disturbances of the three properties (*Gunas*) of the matter principle (*Prakriti*), whereas the spirit principle (*Purushas*) acts as a catalyst only.

The internal computer, the 'Inner Organs' (*Buddhi, Ahamkãra* and *Manas*) are the receiving stations of the unconscious in the brain. The 'Inner organs' impart a direct awareness of the 'Self'. The Ego (*Ahamkãra*) shapes personality. Any state of imbalance in the three qualities (*Gunas*) of the inner principle (*Antahkaranah*) have a formative influence on the personality and imprint themselves strongly on one's character.

The organ of inner perception, *Manas* (mind) develops from *Sattwa Ahamkãra* (the spirit ego) under the influence of *Rajoguna Ahamkãra* (the energy ego). There is a strict distinction between psyche and soul (*Ãtmã*).

Thus we find that *Ahamkãra* (Ego) arises from the transformation of the intellect, whose function is the feeling, 'I' and 'mine' (*Abhimãna*). So from *Ahamkãra* with an excess of *Sattwa* arise five organs of knowledge (*Gyãnendriyas*), the five organs of action or the executive organs (*Karmendriyas*) and the mind (*Manas*) which is an organ of knowledge and activity. These are the subjective manifestations of a being, consisting of a total of eleven *Indriyas*, the sense organs.

The objective manifestations of a being in the world are under the control of the material *guna*, the *Tãmas*. With the increase of *Tãmas, Ahamkãra* (Ego) produces five subtle elements of perception (*Tanmãtrã*)—the scent (*Gandha*), flavour (*Rasa*), form (*Rupa*), consistency or palpability (*Sparsha*) and sound (*Sabda*) which are the essence of five human senses—sound, touch, colour, taste and smell.

From the five subtle elements (*Tanmãtrãs*) came the five gross elements or the five fundamental 'Building Blocks of Existence', the *Panchbhuta* or the *Panchamahãbhuta*—Earth (*Prithvi*), Water (*Jala*), Fire (*Tejas*), Air (*Vãyu*) and Ether (*Ãkãsh*)—the five primal elements.

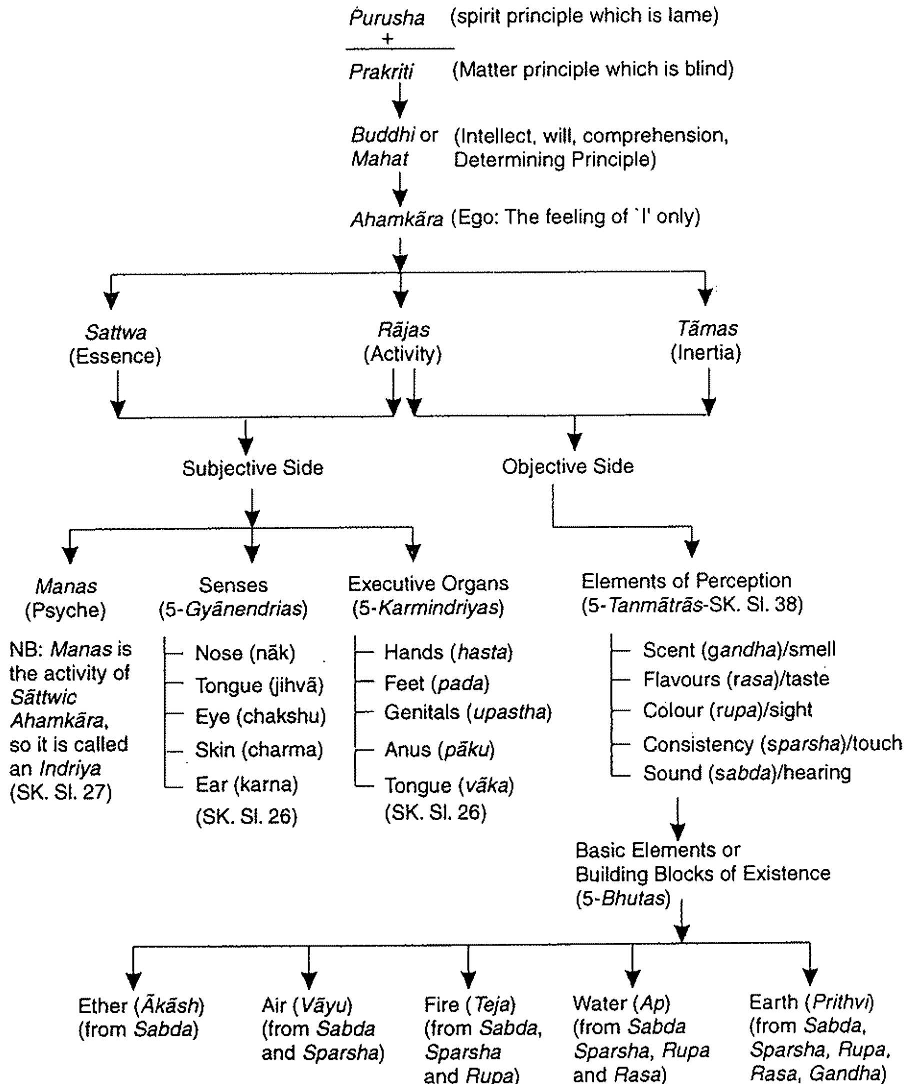


Fig. 2.1 *Samkhya Philosophy*

Thus we find the three qualities (*Gunas*) of the matter principle (*Prakriti*) produce the distinctive properties of the five 'Building Blocks of Existence' (*Panchabhutas*) are as follows:

1. *Tāmas* (inertia) gives rise to the element (*Bhuta*) earth (*Prithvi*).
2. *Tāmas* (inertia) and the psyche qualities of *Sattwa* gives rise to the element water (*Jala*).
3. *Sattwa* (essence) and the dynamically active fundamental quality *Rājas* gives rise to fire (*Agni* or *Tejas*).
4. Then again, the element (*Bhuta*) Air (*Vāyu*) is brought into being by *Rājas* (dynamics) and finally
5. The Ether (*Ākāsha*) is brought into being by *Sattwa* (essence).

All the *Gunas*, the fundamental qualities are in fact present in all the *Bhutas*, the elements or the 'Building Blocks of Existence', but the disturbance of the equilibrium has resulted in the dominance of one or two qualities (*Gunas*) in each element (*Bhuta*).

The 'Trinity of the *Gunas*' of the Indian mythology are thus explained: Brahmā creates universe through *Rājas*, Vishnu preserves it through *Sattwa* and Shiva destroys it through *Tāmas*. The harmony of the universe (macrocosm) has its counterpart in the human being (microcosm).

Thus we have 25 principles (*Tattwas*) of *Sāmkhya*. Of these, the *Purusha* is compared with *Prakriti*, which is the cause or the ultimate source of all other physical objects. *Prakriti* is the uncaused cause of all objects. *Prakriti* is the cause of all creations.

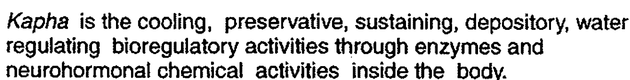
In Āyurveda, Charaka mentioned 24 *Tattwas*. He considers *Purush* and *Prakriti* as one and *Prakriti* alone is not curable. Also, there is no reference of *Tanmātrās* in Āyurveda which also are incurable. Susruta on the other hand is the follower of 25 *Tattwa* School of *Sāmkhya* which has been advocated in *Sāmkhyakārikā* text. Susruta also agrees with Charaka's views that *Indriyas* (sense organs) are physical, i.e. *Bhautic* (elemental).

According to *Sāmkhya-yoga* philosophies, all *Antahkarana* (inner faculty)—*Parināma, Buddhi, Ahamkāra* and *Manas*—are to be understood. In *Gyāna* (knowledge), the *Prakāsh Guna* is more and that is why *Gyāna* is said to be *Sattwic*. *Chestā* (effort or activity) is more in *Rajas Guna* and *Sthiti* (inertia) is more in *Tāmasic Guna*.

In the Indian philosophies, all *Bāhyakaranah's* (outer organs) *Prakāsh* is *pradhān* (main) in *Gyānendriya*, *kriyā* is *pradhān* in *karmendriya* and *sthiti* is *pradhān* in *Prāna*. Again, each of these are of five types. **Sruti** says, "*Deha Dhārana Sakti Hi Prāna* (life)", *i.e.* for the sustenance of life—solid food, liquid and air are essential, without which life cannot be held for a long period. In Āyurveda, *Prāna* (life force) is not treatable, but the same activities carried out by the five types of *Vāyu* which are treatable. *Vāyu* is not *Prāna* (it arises from soul), but is a component of *Prāna*, which is the life force, due to the resultant activities of *Vāyu*, *Pitta* and *Kapha* in cycle, in each and every cell of the body. *Vāyu* is not a life force, but is a motive force only.

According to **Sruti**, *Prāna* (life factor) develops from the Soul (*Ātmā*). *Prāna* is responsible for *Nirmān* (constructing or creating), *Vardhan* (developing) and *Poshan* (nourishing), which are essential factors for the sustenance of the body, *i.e. Dehadhārana*. *Prāna* is produced out of *Antahkaranah*, the 'Inner organ'.

The user of *Bāhyakaranah*, the 'outer organ' are *Antahkaranah*, the 'Inner organs', which are known as *Chitta*, where *Manas* (the mind) is the constant that links and co-ordinates activities between the conscious cortex and the subconscious hypothalamic region from where relay of most of the outside information goes to the cortical region of the brain. *Chitta-Kriya* (activities) takes place in three ways—by *Grahana* (receiving); by *Chintana* (thinking); and by *Dhārana* (holding).



Spirit or Soul Principle
$(S_0 + R_0 + T_0)$

Matter Principle
$(S_1 + R_1 + T_1)$
Triguna at Equilibrium

Intellect, Amrita
$(S_3 + R_1 + T_1)$

Ego, Individualating Principle
$(S_1 + R_3 + T_1)$

Mind $(S_1 + R_1 + T_3)$
It is a linking media between Bāhyakaranah and Antahkaranah. By controlling the three basic types of activities which are Sensory, Motor and Prāna (autonomic nervous system) with the practice of Prānāyāma, the activities of the Tridosha are also calmed down.

When all the three activities come under control as we know in yoga when Prāna becomes steady (Kumbhaka takes place) the Manas also becomes steady. At this stage Mind does not act downward on the Panchabhautic body.
At this stage Manas component is ethereal and moves up and down inside the head is known as Vritti. When this Vritti, vitiation of mind becomes steady, then only 'I' feeling, i.e. ego only remains which is also a fluctuating activity. When this 'I' feeling goes, then only Buddhi, conscious mind remains on -Prolong Practice

S = Sattwa
R = Rajas
T = Tamas

0 = No activity
1 = Least activity
3 = Maximum activity

Whole Human Body
(made up of Panchabhuta, the 'Building Blocks of Existence')

Inner organ (Antahkaranah) inside the skull in the brain.
This is brought under control by the practice of Prānāyama and Meditation in yoga.

This up and down flow of Manas in the head is Vritti (vitiating mind).

Outer organ (Bāhyakaranah)
Related and made up of Panchabhuta Dravyas.

Sensory organs regulating sensory activities. Deals with objective aspect of Panchabhuta outside the body.

Motor organs regulate motor activities and acts on the Panchabhautic body.

Bioregulating Principles are responsible for the sustenance of life principle, the Prāna with the help of five types of Vāyu (motive force inside the body) called Pancha Prānas, which metabolises the solid food, liquid and air ingested and inhaled, by producing Prāna Sakti (energy)

Sruti said: 'Deha Dhārana Sakti Hi Prāna'. This Prāna is controlled by the practice of Prānāyama (breathing exercises). Tridosha consists of Vāta, Pitta and Kapha.

Vāyu or Vāta is the motive bioregulating force or Prāna Sakti in the body, which regulates the Panchavāyu, the vital forces in the body through the activities of the Autonomic Nervous System.

Pitta is responsible for bioregulation of all body reactions producing heat through enzymes and neurohormonal activities. It breaks down food particles and digests them.

Kapha is the cooling, preservative, sustaining, depository, water regulating bioregulatory activities through enzymes and neurohormonal chemical activities inside the body.

Fig. 2.2 *Inter-relationship between Inner Organ (Antahkaranah) and Outer Organ (Bāhyakaranah) in the Human Body showing Body-Mind Holistic relationship. (Based on the philosophies Samkhya and Yoga and here relationship is shown with Āyurveda).*

Though *Bodha* (realization), *Chestã* (effort) and *Dhriti* (retaining or holding) are made separate but they are interdependent. *Bodha* cannot take place unless *Chestã* and *Dhriti* are inter-related. So, the *Prakãsh* (vision) *Guna* is more and the other two are less. Similarly, in *Ahamkara, Chesta-kriya* is more and in *Mãnas, Dhriti* and *Sthiti Gunas* are more.

Below an attempt is being made to explain schematically the relationship between 'Inner and Outer Organs' operating in the human body on the basis of *Sãmakhya* and yoga, which shows their close relationship with Ãyurveda.

Figure 2.2 explains in brief how the body and mind activities are related. It also explains why Ãyurveda is called 'Holistic'. Here deeper concepts of *Sãmkhya-yoga* and Ãyurveda have been integrated.

BUILDING BLOCKS OF EXISTENCE: THE PANCHABHUTA

The philosophy of Ãyurveda is solely based on the universal theory of *Panchabhuta*. The most ancient text Rig Veda does not refer to the word *Panchabhuta*. The theory of *Panchabhuta* actually developed in the post-Vedic period especially during the time of the Upanishadas.

Chakrapãni and Dalhana (commentators of *Charaka-Samhitã* and *Susruta-Samhitã*), both classified *Dhãtu, Upadhãtu* and *Mala*s according to the *Panchabhautic* components (Chakrapãni on CS. Su 15 and Dalhana on SS. Su 15).

Table 2.1 Classification of Dhãtu, Upadhãtu and Malas

S.No.	*Dhãtu, Upadhãtu and Malas*	*Predominance of Bhutas*
1.	Vãyu	Vãyu
2.	Pitta	Agni
3.	Kapha	Jala
4.	Rasa (chyle)	Jala
5.	Rakta (blood)	Agni + Jala
6.	Mãmsa (flesh)	Prithvi
7.	Meda (fat)	Prithvi + Jala
8.	Asthi (bone)	Prithvi + Vãyu
9.	Majjã (marrow)	Jala
10.	Sukra (semen)	Jala
11.	Mutra (urine)	Jala + Agni
12.	Purisha (faeces)	Prithvi
13.	Ãrtava (menstrual blood)	Agni

(Contd)

S.No.	Dhãtu, Upadhãtu and Malas	Predominance of Bhutas
14.	Sweda (sweat)	Jala
15.	Stanya (breast)	Jala
16.	Ojas	Jala
17.	Manas (mind)	Jala
18.	Buddhi (intellect)	Agni

The five human senses correspond to the 'Building Blocks of Existence' and it is out of these that all the things we observe are formed. Hence, the Building Blocks, the *Bhutas* are present in each and every substance around us. The five primal elements are earth, water, fire, air and ether. The five human senses are smell, taste, sight, touch and hearing and their apparatus, i.e., the *Indriya-Visayas* are nose, tongue, eye, skin and ear (Table 2.2).

Table 2.2 *Panchabhutas* and their Apparatus

S.No.	Bhutas	Gunas	Indriya Vishayas
1.	Ãkãsh	Sabda (sound)	Sotra (ear)
2.	Vãyu	Sparsha (touch)	Twak (skin)
3.	Agni	Rupa (vision)	Chakshu (eye)
4.	Jala	Rasa (Taste)	Rasanã (tongue)
5.	Prithvi	Gandha (smell)	Ghrãna (nose)

Each of our five senses (*Gyãnendriyas*) are the main organs of perception for a basic element. No element ever appears in its pure form but are always intermixed. All the sense organs are involved in each act of perception. One of these takes the lead in perceiving the effects of a particular element.

1. The sense of hearing (*Sabda*) is associated with the element ether (*Ãkãsh*). Spoken messages, carried by radio-waves can be heard in the satellite in space through the ether (which is full of charged particles).
2. The sense of touch (*Sparsha*) is perceived through the element air (*Vãyu*) whose characteristic is motion. We can feel the pressure of air on our skin.
3. The sense of vision (*Rupa*) is perceived through the element fire (*Agni*) whose characteristic is that we can see all things around.
4. The 'Building Block' water (*Jala*) is perceived by the sense of taste (*Rasa*). It is a very important element. It is with water that an accurate estimation of the properties of various medicinal plants and other substances can be made.
5. The sense of smell (*Gandha*) is the principle apparatus for perceiving the element earth (*Prithvi*) whose characteristic is that of well-soaked earth.

Āyurveda deals with the human body and is primarily concerned with the 'Building Blocks', the *Panchabhautika* matters. For this reason it has enumerated 20 special *Gunas* (qualities) to suit its special needs. Thus it becomes essential to explain the definite meaning conveyed by those 20 terms. They are enumerated in Table 2.3.

Table 2.3 Twenty Special Qualities of Substances

S.No.	Qualities (Gunas)	Qualities (in English)	Additional Remarks and its Actions
1.	Guru	Heavy	Brimhana (increased body weight) is tonic. Its origin is from earth (Prithvi).
2.	Laghu	Light	Laghava (body weight reduction)—creates activity and its origin is from Ether (Ākāsh).
3.	Shita	Cold	Cooling and its action is stambhana (holding).
4.	Ushna	Hot	Heating and its action induces perspiration (Kledana).
5.	Snigdha	Viscous or oily	Kledana, that which produces moisture and originates from water (Āpya).
6.	Rukksha	Dry or Harsh	Soshana, that which dries up and originates from water (Āpya).
7.	Manda	Inactive	—Chirakāri, i.e. acts very slowly. Its action is dull and slow moving
8.	Tikshna	Active	—Shigrakāri, i.e. that which acts quickly. Its origin is from fire (Taijasa)
9.	Sthira	Motionless (as a solid)	—Avyāptisila, i.e. that which does not spread out. It is static, immobile and support (Dhārana).
10.	Sara	Fluid	—Vyāptisila, i.e. that which does not spread, upwards and does not remain still chala means flows
11.	Mridu	Soft	It relaxes (Slethana).
12.	Kathina	Hard	It is a fastener or hardener. It solidifies (Drudikarana).
13.	Visada	Clear, Transparent	It cleans and clears (Kahalana).
14.	Picchila	Slimy or Gelatinous	It forms a coating (Lepana).
15.	Slaksana	Smooth	It stimulates growth (Ropana).
16.	Khara	Rough, Harsh, Coarse	It does Lekhana, reduces body weight.
17.	Sthula	Bulky, Gross	It covers and protects (Samavarrna).

(Contd)

S.No.	Qualities (Gunas)	Qualities (in English)	Additional Remarks and its Actions
18.	Sukshma	Penetrative	That which penetrates into the finest interstices. It is subtle and penetrates and analyzes (Vivarana).
19.	Sãndra	Dense, Solid, Thick	It nourishes (Prasãdhan).
20.	Dravya	Liquid	Its action is dissolving (Vilotana).

The ancient sources mention a number of contrasting pairs like the ten pairs of basic qualities (*Gunas*) mentioned above—heavy-light, cold-hot, hard-soft, etc. There is a special advantage of this set of simple descriptive words. It can be understood without distortion of meaning wherever it goes.

The qualities (*Gunas*) assigned to the Building Blocks (*Bhutas*) are tested descriptions of how a given element will reveal itself.

Table 2.4 Qualities (*Gunas*) assigned to Building Blocks (*Bhutas*)

1.	Earth	It can be heavy, hard, dry, static, slow, solid or coarse.
2.	Water	It can be hot, dry, quick, cold, soft, heavy or slow.
3.	Fire	It can be hot, dry, quick, fine, light, coarse and clear.
4.	Air	It can be fine, light and clear but also dry and cold.
5.	Ether	It is smooth, fine, soft and clear.

The *Panchabhuta*, the 'Building Blocks' originate from the five *Tanmãtrãs* (or the essences emanating from *Ahamkãra*, i.e., the essences of sound, touch, colour, taste and smell.). Of these, *Prithvi* (earth) helps the other four by being their support. *Ap* (water) helps the other four by moistening. *Tejas* (fire) helps the others by ripening. *Mãrut* or *Vãyu* (air) helps by drying and *Ãkãsa* (ether) helps the other four by giving space.

In short it can be tabulated as shown in Table 2.5.

Table 2.5 *Prithvi* helps *Panchabhutas*

1.	Ākāsa	has only one quality—sound.
2.	Vāyu	possesses two qualities —sound and touch.
3.	Tejas	possesses three qualities —sound, touch and colour.
4.	Ap	possesses four qualities —sound, touch, colour and taste.
5.	Prithvi	possesses five qualities —sound, touch, colour, taste and smell.

The reason behind postulating only five *Bhutas*, is as follows: God has endowed us with only five senses and the external world can be apprehended by us through these senses, the *Indriyas*. There is no other source which can give any information about matter which constitutes the physical world. For one particular *Indriya*, there is only one sense organ. The sense of hearing can appreciate only the quality of sound. Sound, touch, colour, taste and smell are five sense-objects corresponding to the five senses. These are *Gunas* and as such cannot exist independently by themselves, but must have some receptacles. In this way we get five receptacles, the five *Bhutas*.

All matter is a mixture of *Bhutas* containing one or the other in a predominant ratio. As Susruta said, all substances are derived from a combination of the five *Bhutas* and the predominance of any one of them in a particular substance determines its character, and so we say, this is earthy (meaning thereby, that it contains the *Prithvi Bhuta*, the earth 'Building Block' in a predominant degree), this is watery, this is fiery, this is airy, this is etherial—as Āyurveda deals with gross matter, both Charaka and Susruta described the properties and functions of matter, classifying them as earthy, watery, etc., (CS. Su. 26 and SS. Su 41 and AS. Su. 1).

Susruta enumerated the respective qualities of the five *Bhutas* (SS. Su. 1), but it has already been mentioned that the five *Bhutas* in their absolute states are not found in nature.

The function (*Karmas*) of *Panchabhutika* matters are shown in Table 2.6.

Table 2.6 **The Function or Actions (*Karmas*) of *Panchabhutika Dravyas* (matters)**

Earthy	*Watery*	*Fiery*	*Airy*	*Ethereal*
—to make the body steady and strong.	—to make the body viscid, moist and compact. —to make the liquid parts of the body.	—combustion. —digestion. —to make up the heat of the body. —to impart a glow to the body. —to manifest the parts.	—to make the body non-viscid, dry and light.	—to make the body soft, porous and light.

The properties (*Gunas*) of *Panchabhutika* elements are given in Table 2.7.

Table 2.7 **Properties (*Gunas*) of *Panchabhutika* Elements**

Earthy	*Watery*	*Fiery*	*Airy*	*Ethereal*
Bulky	—	Penetrative	Penetrative	Penetrative
Dense	Dense	—	—	—
Heavy	Heavy	Light	Light	Light
Hard	Soft	—	—	—
Inactive	Inactive	Active	—	—
Motionless	Flowing	—	—	—
Rough	Moist	Rough	Rough	Smooth
—	Viscid	Dry	Dry	—
—	Cold	Hot	Cold	—
—	Slimy	Clear	Transparent	—
Form firm	—	—	—	—
Smell predominates.	Taste predominates.	Colour predominates.	Touch predominates.	Sound predominates.
Mostly sweet.	Mostly sweet.	Mostly pungent.	Mostly astringent.	—
Slightly astringent.	Slightly astringent, sour and salty.	Slightly sour and salty.	Slightly bitter	Unmanifested taste
Natural tendency to fall down.	—	Natural tendency to go upwards.	—	Vavāyi, i.e., has instanous effect like that of poisons

The properties (*Gunas*) of the five Building Blocks of Existence (*Panchabhutas*) according to Susruta (SS. Sa. 1) are given in Table 2.8.

Table 2.8 Properties (*Gunas*) of the *Panchabhutas*

S.No.	Bhutas	Properties (Gunas)	Qualities in English
1.	Ākāsa (space or ether)	—Sabdah —Sravanendriyam —Sarva chidra samuha —Vivaktatā	—Sound —Sense of hearing —Porsity —Power of differentiation (according to the commentator Dalhana, Vivaktatā means individualization of the arteries, veins, nerves, muscles, bones and other parts of the body
2.	Vāyu (Air)	—Sparsah —Sparsendriyam —Sarva chestā samuha —Sarva sharira spandanam —Laghutā	—Touch —Sense of touch —All activities —All vibrations (of the body) —Lightness
3.	Tejas (Fire)	—Rupam —Rupendriyam —Varnah —Bhrājisnuta —Paktih —Amarsah —Taikshnyam —Sauryam —Santāpah	—Colour —Sense of light —Complexion (colour of the skin) —Lustre —Digestive power —Anger —Energy or Activity —Valour —Heat
4.	Jala (Ap, Water)	—Rasa —Rasendriyam —Sarva drava samuha —Gurutā —Saityam —Retas —Sneha	—Taste —Sense of taste —Liquidity of all liquid parts of the body —Heaviness —Coldness —Semen, i.e., power of producing semen —Viscosity
5.	Prithvi (Earth)	—Gandha —Gandhendriyam —Sarva murta samuha —Gurutā	—Odour —Sense of smell —Hardness (of all solid parts of the body) —Heaviness

Susruta in his classical text, *Susruta Samhitā* adds (by following the *Sāmkhya* view) that:

1. *Sattwa* predominates in *Ãkãsa* element of *Panchabhuta*
2. *Rajas* in *Vãyu* element of *Panchabhuta*
3. *Sattwa* and *Rajas* in *Agni* element of *Panchabhuta*
4. *Sattwa* and *Tãmas* in *Ap* element of *Panchabhuta*
5. *Tãmas* in *Prithvi* element of *Panchabhuta*

According to Ãyurveda, the body as well as the five *Indriyas* are derived from five *Bhutas*. We observe the following views of Charaka in *Charaka-Samhitã* (CS. Sã. 7).

1. **Earthy:** Those parts of the body which are solid, heavy, bulky, motionless, rough and hard like nails, bones, teeth, muscles, skin, faeces, hair, ligaments, etc., are *Pãrthiva* (earthy). The smell of the body and the smell of the soil are also earthy.
2. **Watery**: Those parts of the body which are liquid, inactive, viscid, soft, slimy and which flow like chyle, blood, lymph, fat, *Kapha*, *Pitta*, urine, sweat, etc., are *Ãpyã* (watery). The taste and the sense of taste also are watery.
3. **Fiery:** The heat of *Pitta* and the radiance of the body are *Ãgneya*; colour and the sense of sight is also fiery.
4. **Airy**: Exhalation, inhalation, contraction, expansion, movement, opening and closing of the eye-lids, incitement, sustenance, etc. are *Vãyaviya* (airy), i.e. due to *Vãyu* (*Vãyu* being invisible, its presence is inferred from its actions and qualities), touch and the sense of touch are also airy.
5. **Ethereal:** The pores and channels of the body are *Antariksha* (Etherial). Sound and the sense of hearing also are ethereal.

3

Bioregulating Principles: Tridosha

This critical chapter on *Tridosha* has been discussed under nine sections. They are as follows:

(A) *Tridosha* (*Vãyu*, *Pitta* and *Kapha*), the Bioregulating Principles and their characteristics
(B) Temperaments and Constitution: The *Prakriti*
(C) Physical Properties of Bioregulatory Principles (*Tridosha*)
(D) Location of the three Bioregulatory Principles (*Doshas*) in the Body
(E) General Functions of the Normal Bioregulatory Prinicples, the Tridosha (*Vãyu*, *Pitta* and *Kapha*)
(F) Causes of Derangement of *Doshas*, the Bioregulatory Principles
(G) Funtions of the Deranged *Doshas*
(H) Accumulation of the *Doshas*
(I) Diseases and Disorders Mainly Caused by the *Doshas*.

TRIDOSHA (VÃYU, PITTA AND KAPHA), THE BIOREGULATING PRINCIPLES AND THEIR CHARACTERISTICS

The foundation of Ãyurvedic treatment lies on *Vãyu*, *Pitta* and *Kapha*. They are the three 'Bioregulating Principles' present inside the body and are known as *Tridosha*, which controls the various physiological functions of the body (AH. Su. 1 and SS. Su. 21).

As in 'preview' we have already learnt, all the matter (*Padãrtha*) we observe around us is made on the basis of the fine 'Building Blocks of Existence', the *Panchabhuta*, but only the living matter has the *Tridosha*, the vital principles regulating all biological processes.

In all the living things, animals or plants, the three Bioregulating Principles, *Vãyu*, *Pitta* and *Kapha* are responsible for all physiological functions taking place in a cell or a body. *Vãyu*, *Pitta* and *Kapha* are found in each and every cell which regulates and conducts the process in the body.

Vãyu is responsible for proper functioning of inhalation, exhalation, and the general movements of the body. The chyle, blood and other *Dhãtus* (tissues) of the body have no

independent movements. It is the *Vãyu* which drives all of them over the body and assists to nourish and sustain the entire body. The *Pitta* turns chyle into blood, keeps up the memory, preserves the heat of the body and thus helps maintain the body in proper order. *Kapha* on the other hand binds up different joints, makes them firm, helps in the formation and preservation of the body by cooling all nutritive digested food material and by separating waste material in the building process of the body tissues. The crude bile is the mala (waste) of *Rakta Dhãtu* and the slimy mucous which we observe is the *mala* (waste) of *Rasa Dhãtu*.

RELATIONSHIP WITH THE PANCHABHUTA, THE 'BUILDING BLOCKS'

Earth (*Prithvi*) and Ether (*Ãkãsa*) have no definite actions of their own and so they are not the direct cause of any disease. It is by the association with any one of the three (Air, Fire and Water) elements that these two can function. Earth and Ether have nothing to do with any activity or malfunction in the body. This is the reason why *Ãyurvedic* physicians postulated only three *Doshas*, namely *Vãyu*, *Pitta* and *Kapha*, corresponding to the three *Bhutas*, the basic elements of nature air (*Vãyu*), fire (*Tejas*) and water (Ap).

The terms *Vãyu*, *Pitta* and *Sleshmã* (or *Kapha*) are derived respectively from the Sanskrit roots '*Vã*', meaning to move or excite, '*Tap*,' to heat and '*Slis*' to embrace (SS. Su. 21). From the above we infer that the natural attributes of *Vãyu* are motion and the power of imparting that motion to other bodies; that of *Pitta* is heat; and those of *Sleshman* or *Kapha* are union and integration.

The word *dhatu* is derived from the root '*Dhã*', which means to sustain and to nourish. So, any thing which sustains and *nourishes the body is called Dhatu*.

Vãyu, *Pitta* and *Kapha*, the Bioregulating Principles are also called *Dhãtus* from the physiological point of view, because they support the body. Sometimes these three are called 'supporters' of the body. These very vital principles are called *Doshas*, when they undergo qualitative and quantitative changes and lose their normal function, induce morbid processes called *Malas*, the wastes, when they spoil the system and some get excreted.

So, one and the same proximal substances, be it *Vãyu*, *Pitta* or *Kapha* are designated differently according to the body condition as *Dosha*, *Dhãtu* and *Malas*. Although the body is made up of five *Bhutas*, yet for convenience of Ãyurveda, *Dosha*, *Dhãtu* and *Malas* are taken to be the root cause of the body (SS. Su. 15). The *Dosha*, *Dhãtu* and *Malas* of the human body are as follows:

(i) The ***Doshas*** The Bioregulating principles are three in number, *Vãta* (or *Vayu*), *Pitta* and *Kapha* in the normal or in the equilibrium state. They sustain the body and are called *Dhãtus*. But in the human body they are always in a disequilibrium state, causing a malfunctioning of body functions or causing disease, thus, they are commonly described as *Doshas*:

(ii) The ***Dhãtus*** The *Dhãtus* or the tissues of the body are of seven types and are known as Sapta (seven) *Dhãtu* according to Ãyurvedic concept. They are *Rasa* (chyle), *Rakta* (blood), *Mãmsa* (flesh), *Meda* (fat), *Asthi* (bone), *Majjã* (marrow), and *Sukra* (semen).

(iii) The ***Malas*** of the body are excretory products, such as, sweat, urine, faeces, etc.

The Bioregulatory principles have acquired a specific character from the elements that rule them. The elements of the *Bhutas*, earth and water rule the formation of *Kapha*, fire rules that of *Pitta*, air and ether that of *Vãyu* (or *Vãta*).

Kapha has the firmness and stability of earth, plus a fluid plasticity, *Pitta* displays the energy of fire, and *Vāyu* processes the mobility of air and ether.

GENERAL NATURE OF TRIDOSHAS, THE THREE BIOREGULATING PRINCIPLES

VĀYU (OR VĀTA)

1. The classical Āyurvedic author Susruta described *Vāta* as the motivating force which keeps everything going (in other words moving). The principle *Vāta* is responsible for all the sensation and activities in the body.
2. Ether (*Ākāsa*) means 'space', and air (*Vāyu*) means 'wind' and the two elements are combined in *Vāta*, which is the movement in space, in the microcosm and in man (AS. Su. 20). The term *Vāta* or *Vāyu* is commonly used in all the Āyurvedic texts for the same purpose, but it will be better if the term *Vāyu* is used only for *Vāyu Bhuta* (Building Block) and *Vāta* for the *Vāyu Dosha* (Bioregulating Principle).
3. Most of the functions of *Vāyu* mentioned in the classical texts have something to do with movement. *Vāyu* pervades everywhere and is responsible activities like breathing, animation, etc.
4. *Vāyu* is the most important of the three Bioregulating principles, since it sets the other two inactive *Doshas* into motion.
5. Perception, assimilation and reactions are all properties of *Vāyu*.
6. Every sensation experienced by the senses is converted by *Vāyu* into Psychosomatic reaction.
7. *Vāyu* is the initiator and promoter of all biological reactions inside the human body.
8. The hypothalamus in the brain plays a vital role in regulating *Vāyu*, the motive energy or force in the body.

PITTA

1. *Pitta* is responsible for all kinds of transformation of food in the body, all metabolic processes and every reaction in which heat is generated.
2. The most important functions of the inner fire (*Agni*) generated by the *Pitta* are metabolic transformation, digestion, combustion, oxidation, regulation of body temperature, visual faculty and colour of the blood and skin.
3. *Pitta* stimulates the intellect and the capacity for enthusiasm.
4. Activities of *Pitta* are similar to the functions of the sympathetic nervous system, which breaks down complex molecules of the body with the release of energy (Catabolism).
5. *Pitta* is responsible for the energy released by chemical and biochemical processes.
6. The main carriers of *Pitta* are hormones, enzymes, co-enzymes, vitamins, etc.
7. *Pitta* has the energy of the dominant fire, and the nature of fire is to alter substances to combustible material and create warmth in the body.

KAPHA

1. The Bioregulating principle *Kapha* is formative and preservative.
2. Another name of *Kapha* is *Sleshma*, meaning 'cementing' or 'cooling'.
3. Kapha imparts to the body firmness, stability, flexibility, resilience and calmness.
4. *Kapha* aids anabolism and so builds up the body tissues.
5. *Kapha* is involved in the construction of the smallest cell and the largest bone of the body and also in the formation of the joints.

6. It also gives mental strength, endurance and resistance to the body to fight diseases.
7. It also accelerates healing processes.
8. Without *Kapha*, the material universe would be formless as fire and wind would have no cohesion. *Kapha* keeps *Vāyu* and *Pitta* confined within their normal limits.
9. One of the essential functions of the principle *Kapha* is to ensure the permeability of the cells, intracellular and extracellular fluids, through the body.
10. *Kapha* strengthens everything from individual cells to the skeletal frame. *Kapha* also lends strength and stability, and also makes the body supple.
11. The formative and preservative principles responsible for anabolism and water control of the body are also through *Kapha* regulating principles, which are hormones, enzymes, co-enzymes, vitamins, etc. works in association with the parasympathetic regulatory system for the construction, elimination and development of the body. They are cooling and form the body by controlling the inner heat created by *Pitta*.

The Building Block (*Bhutas*) of the Bioregulating Principles (*Doshas*) are as follows:

Table 3.1

Building Blocks (Bhutas) of Bioregulating Principles	***VĀTA***	***PITTA***	***KAPHA***
	Air and Ether (Vāyu and Ākāsh)	Fire (Agni)	Water and Earth (Jala and Prithvi)

TEMPERAMENTS AND CONSTITUTION: THE PRAKRITI

Charaka, Susruta, Bhela and others have described in detail the peculiarities of the individual characteristics and temperaments (CS. Vi. 8 and SS. Sā. 4).

The three Bioregulating principles form basic human character. The dominant *Dosha,* the Bioregulating principle determines the psychosomatic character type to which an individual belongs.

Vāta, Pitta or *Kapha (Sleshmā)—Prakriti* is misnomer, as the predominance of either of the Doshas creates a case of abnormality. Consequently, a person having, *Vāyu* as a predominant factor in his constitution from the very inception is considered as having *Vāta Prakriti,* and is called a *vātala,* i.e., susceptible to *Vāyu*. It remains unalterable throughout life (Cf. SS. Sā. 4).

During lifetime, a *vāta Prakriti* person can never be changed into a *Pitta Prakriti* or *Sleshmā Prakriti* and vice-versa.

Charaka, Susruta, Bhela and others have described in detail, the peculiarities of the respective temperaments (CS. Vi. 8 and SS. Sā. 1) and the characteristic features are enumerated as follows:

VĀTA TYPE

A person of this type is wakeful, lean, devoid of much fat, medium stature, has a rough skin and a rough low-pitched and indistinct voice. These are due to the dry quality of *Vāyu*.

This type of person is restless, incoherent in his habit and vacillating in temper. He walks fast and dreams of scaling the skies. His eyes always seem to move. He talks incoherently and talks much. He makes few friends and is incapable of accumulating money. He can grasp any idea very quickly but is unable to retain it in memory for any length of time. He is unhappy and his body is marked by a large number of prominant veins (*sirãs*). These characteristics are due to the lightness, fluidity and quickness qualities of the *Vãyu*.

- Due to the cool nature of *Vãyu*, a person of this type cannot bear any cold substances and is averse to cold contact.
- Due to roughness and the transparency properties of *Vãta*, the soles of one's feet and palms are much fissured. A person of this type often has a rough beard and moustache, rough nails and scanty hair. He is hot-tempered and grinds his teeth when asleep.
- Morally, this type of person tends to be dishonest, jealous and thievish. He is impulsive, ungrateful and unsteady in friendship. He is fond of music.
- Due to the characteristic qualities of *Vãt*a, these individuals have short lives, low vitality and few children.
- According to Susruta, the nature of the *Vãta* type of individuals seems to resemble characters those of goats, jackals, hares, rats, camel, dogs, vultures, crows and asses.

PITTA-TYPE

The following are the characteristics and temperament of a person belonging to the *pitta* type (CS. Vi. 8. and SS. Sã. 4):

- This type of person cannot bear any hot substance and is averse to warmth. His limbs are loosely shaped and yellowish in colour. The nails, eyes, tongue, lips, soles and palms of such person are copper coloured.
- Body is covered with pimples and moles and looks ugly with wrinkles, boldness and premature grey hair. These people perspire copiously, emitting a fetid smell.
- *Pitta* type people are irritable in temper, though they cool down very soon. They are intelligent and possess a good retentive memory and love to monopolize any conversation. They dream in their sleep—meteors, lightening, flashes, fire and red flowers, etc.
- *Pitta* type is vigorous and is irresistible in battle, neither overpowered by fear, nor bends before a powerful antagonist. These people are of middling strength and live up to middle age.
- Nature of *Pitta* type of people resembles that of a serpent, an owl, a cat, a monkey, a tiger, a bear or a mongoose.

KAPHA-TYPE

The *kapha* characteristics of a person are as follows (CS. Vi. 8 and SS. Sã. 4).

- The skin of these types of person is smooth and very cool, and the complexion is bluish in colour. These people have stately appearance; the limbs are proportionate and symmetrically developed and a cool effulgence radiates from them. They are specially fond of the sweet taste.
- A *Kapha*-type person is self-controlled, grateful, fore-bearing, unselfish, strong and does not hastily form any opinion. These people are fast in their enmity, but also unflinching and unchanging in their friendship. These people generally prosper in life.
- These people dream in their sleep of large lakes decked with a myriad of full-blown lotus flowers, swans and geese.
- The eyes of these types of people are white with a slight red tinge in the corners, and hair curly, profuse and black. Their voice resembles the rambling of a rain-cloud or the roar of a lion or a drum (*Mridanga*).
- The *Kapha*-type of persons are of sedate nature, capable of sustaining pain and fatigue and respectful towards their superiors. They have faith in their own religion, are true to their words and are always obedient to their preceptors. They suffer no vicissitudes of fortune and give large gifts after long deliberation.
- Due to the characteristic qualities of *Kapha,* these individuals have a strong physique and a long life.
- The nature of this type of people is similar to that of the Gods, a lion, a horse, an elephant, a cow, a bull, an eagle or a swan.

Of the three above mentioned types of persons, the *Kapha* type of characteristics are the best.

MIXED TYPE

Due to the preponderance of two *Doshas,* there may be an admixture of their characteristics and temperaments.

TRIGUNA TYPE

Susruta always brought up the three *Sãmkhya* philosophy *Gunas* (qualities) of *Sattwa, Rãjas* and *Tãmas* in his discussions. He also classified temperaments according to these three *Gunas* (SS. Sã. 4 and Cf. AS. Sã. 8). These temperaments refer principally to the mental and spiritual nature of man.

ELDER VÃGBHATA'S CLASSIFICATION

The elder *Vãgbhata* classified temperaments in another way also (AS. Sã. 8) according to (i) caste, (ii) family, (iii) country, (iv) time (v) age (vi) strength, and (vii) individuality.

Temperaments and characteristics of a person persist upto the time of death and can never be altered, but counteracted by following opposite qualities of one's predominating *Doshas*.

According to the younger *Vāgbhata,* the basic human or psychosomatic characters (*prakriti*) to which an individual belongs and the distinctive features of each *Dosha*-type are enumerated in Table 3.2.

Table 3.2 Younger Vāgbhata's Classification of Human Temperaments and Constitution

Vāta	*Pitta*	*Kapha*
The skin is dry all over the body.	Light yellowish or reddish skin. Has moles, freckles and birth marks. Soles, palms, lips and tongue are redder than in other types.	The skin is greasy, shiny and soft. It is not sensitive and feels rather cool. The tissues of the body are well-developed.
Structure of the whole body is thin.	Small active eyes with fine and scanty eyelashes.	Has good physical stability guaranteeing endurance, strength and staying power.
Toe-nails and finger-nails are craked and rough and tend to be dark in colour.	Slow growing hair which easily falls out and turns grey.	Eats slowly and digestion of food is excellent. Food assimilation is extremely good. Small quantities of food are required in proportion to the body size and strength.
Teeth are fragile and are prone to plaque and dental decay.	Body possesses little strength and resistance. Has limited ability to sustain physical exertion. Loose joints, flabby muscles and warm limbs. Good blood circulation in hands and feet.	Aptitude for sexual activity is very much and a corresponding capacity for sensual enjoyment is more.
Occurrence of sudden cramps is not unsual	Likes to eat too much, too often and punctually. Has a preference for cold and chilled food.	Life expectancy is good and sleep requirement is not great.
Food is eaten in a rush and not thoroughly chewed. Time of taking meals is irregular and the quantities consumed are irregular too.	Excretion of faeces and urine is very abundant and there is a tendency to diarrhoea.	Individuals do not get easily upset or irritated.
Movements are restless and also the eyes blink a lot and the glance shifts rapidly from side to side.	Often likes to use perfumes and deodorants, since perspires freely.	The intelligence is well-developed as is observed in the Pitta-type but takes more time to reach conclusions.
The sexual needs are not strong and have a limited capacity for enjoyment.	Has a moderate sexual desire and popularity among the opposite sex is limited.	The voice is pleasant sounding.
The intellect is erratic. Memory and concentration are generally weak. Often have high flying dreams.	Has great intelligence, a good memory and a logical thought. Has power of rapid decision making.	The hair of this type of individual is thick and slightly greasy. Its colour is distinctive and strong.

(Contd)

Vāta	*Pitta*	*Kapha*
Whole life-style is marked with irregularities at every stage and have few friends and is often envious.	Quick temper and is liable to be very jealous.	
	Dreams of meteors, bright horizons, lightening flashes, fire and the sun.	

PHYSICAL PROPERTIES OF BIOREGULATING PRINCIPLES (TRIDOSHA)

VĀTA

Charaka has mentioned six qualities (*Gunas*) of *Vāyu*, (CS. Su. 12 and 20) namely:

(i) *Ruksha* (dryness)
(ii) *Laghu* (lightness)
(iii) *Sita* (coldness, cooling)
(iv) *Dāruna* (mobility)
(v) *Khara* (roughness)
(vi) *Visada* (transparency).

According to some *Dārunatva* is *Kāthinya* or hardness, but *Vāyu* itself cannot be hard. It only means that *Vāyu* can make a thing hard by drying.

According to Susruta (SS. Ni. 1.), *vāyu* is dry, cold, light, rough, and has movement in all directions. It possesses two qualities, sound and touch and has the *Rājas Guna* in a predominant degree. (Here Susruta followed *Sāmkhya* system of philosophy.)

In Āyurveda, *Vāyu* has been described as cold, because in a body-*Vāyu* is increased by an intake of cold substances and diminished by the use of hot substances. Dryness and coolness are the two most active properties of *Vāyu*.

Vāyu is neither hot nor cold in touch: *Sita* or *Ushna* is the quality of the substance with reference to its action in the body. These qualities are not used to mention as perceived by our sense of touch, but of their actions within the body.

PITTA

The characteristic of *Pitta* is hot (hot in action and also hot in touch) because it is *Tikshna* (active) and slightly viscid. Its colour is other than white and *Aruna* (faintly red), its smell is like raw meat and its taste is bitter and sour (CS. Su. 20).

Susruta mentioned that *Pitta* is liquid, hot, active, foul smelling, coloured blue, yellow, etc. and is bitter in taste, when not fully digested, it is sour (SS. Su. 21).

The smell and colour of *pitta* have been described as those of blood (CS. Ch. 4). Like blood, *pitta* is also foul smelling (like the smell of raw meat or of a burning corpse) and scarlet in colour.

The colour of normal *pitta* is red or yellow. When vitiated, it may have other colours excepting white and light red.

The normal quantity of *pitta* in the body is five *Anjalis*, i.e., five times the quantity that can be contained in the hollow of the two palms put together (CS. Sã. 7).
Note: In ancient days enzymes, harmones, etc., were unknown, so they gave the example of bile as *Pitta* though it is a *mala* (waste) of *Rakta Dhãtu.*

KAPHA

Kapha or *sleshman* is heavy, cold (in touch as well as in action), white in colour, viscid, soft, slimy, motionless and is sweet in taste.

According to Susruta, the taste of normal *Kapha* in mature state is sweet. It is salty when in immature condition (SS. Su. 21). The normal quantity of *kapha* in the body is six *Anjalis* (CS. Sã. 7).
Note: As in Pitta, Kapha is observed as slimy or mucoid and is a waste of Rasa Dhãtu.

To summarize, the physical properties of the Bioregulating principles, the *Doshas* are as follows:

1. ***Vãyu*** The nature of *Vãyu* is that of air. It is in the body is a moving energy. It is very light as a gas should be. It is penetrative, being like a gaseous substance. It is all pervasive and can enter the even the finest structure of the body. It is '*Chala*', i.e., does not remain in one place, like a gas it spreads at once all over the body. *Vãyu* is dry and is never viscous. It can never be sticky but is always '*Visada*' (clear/transparent). *Vãyu* is '*Assanghata*', i.e., has no compact form like *pitta* and *kapha* (CS. Su. 1 and 12). So, *vayu* has no definite colour, shape or any fixed quality in the body. *Rãjas-Guna* is predominant in *vãyu.*
2. ***Pitta*** It is active and a liquid like a strong acid. *Pitta* being a liquid is heavier than *Vãyu*. *Pitta*, is '*Sara*', i.e., it flows. It is slightly viscous and '*visada*' (clear), (CS. Su. 1). *Sattwa Guna* predominates in *Pitta*. This is a typical characteristic of the bile juice present in the Gall Bladder.
3. ***Kapha*** It is a semisolid and sticky substance like a jelly. It is heaviest of the three Bioregulating Principles. It is dense (*Sãndra*) and motionless (*Sthira*) and is soft (*Mridu*). *Kapha* is totally viscid and is sticky. It is slimy (*Pichhila*) and transparent (*Accha*) (CS. Su. 1). *Tãmas* is the quality of *Kapha*. This is a typical characteristic of fluids observed in synovial fluid in various joints of the body.

Table 3.3 Physical Properties of Bioregulating Principles (Vãyu, Pitta and Kapha)

	Vãta	*Pitta*	*Kapha*
General Properties	Ruksha: dry, rough Sita: cold, cooling Laghu: light Visada: clear, trans-parent, not viscous Khara: raw, loose Suksma: subtle, fine, penetrating	Ushna: hot Tikshna: sharp Drava: fluid, flowing Sara: mobile Snigdha (slightly): oily, viscous	Guru: heavy Snigdha: oily Pichhila: gelatinous, turbid Sita: cold Sthula: coarse Sthira: stable, motionless Slaksma: smooth

(Contd)

	Vãta	*Pitta*	*Kapha*
Other Properties	Dry and cold are the two most active properties of Vãta Rajas Guna predominates	Occurrence of colours red, yellow, etc. excepting white. Has bitter taste and smell of raw meat. Sattwa Guna predominates.	Sweet in taste and white in colour. Tãmas Guna predominates.

LOCATION OF THE THREE BIOREGULATING PRINCIPLES (DOSHAS) IN THE BODY

The Bioregulating Principles: *Vayu*, *Pitta* and *Kapha* pervade the whole body (CS. Su. 20), their general seats being the lower, middle and upper portions of the body. Charaka and Susruta mentioned the particular parts of the body where the normal *Doshas* generally accumulate. The knowledge of the seats of *Doshas* is important because the concept of body purification therapy known as *Samsodhana,* which is done by *Panchakarma* therapeutic procedures is very necessary. These are the five steps involved in body purification procedure. The details follow:

VÃYU

According to Charaka (CS. Su. 20), the seats of *vãyu* are

(i) *Vasti* (urinary bladder)
(ii) *Puris*ãdhãna (intestines)
(iii) *Kati* (pelvis)
(iv) The two thighs
(v) The two legs
(vi) The bones

Of these the *Purisãdhãna* (or *Pakvãsaya*) is the special seat of *vãyu*. This is so, because *vãyu* is generated therein, and when this *vãyu* remains normal, the *vãyu* in the other parts of the body also remains normal. By *Panchakarma* therapeutic process, the aggravated *vãyu* in the body is brought back to the *Pakvasãya* (large intestine) to calm down the aggravated *vãyus* in other parts of the body.

PITTA

The seats of *pitta* are:

(i) *Sweda* (sweat)
(ii) *Rasa* (chyle)
(iii) *Lasik*ã (the watery parts of muscles and skin)
(iv) Blood
(v) *Ãmãsaya* (duodenum). Amongst these *Ãmãsaya* is the special seat of *Pitta*.

Kapha

The seats of *kapha* are:

(i) *Uras* (thorax)
(ii) *Siras* (head)
(iii) *Grivã* (neck)
(iv) The joints
(v) *Ãmãsaya*
(vi) *Medas* (fat)

Of these, *Uras* is the special seat of *sleshman* or *kapha*.

Table 3.4 Location of the three *Doshas* in the Body

	Vãta	*Pitta*	*Kapha*
Special Seat	Pakvãsaya (Intestines)	Ãmãsaya (Duodenum)	Ãmãsaya (Stomach)
Other Seats	Vasti (urinary bladder) Kati (pelvis) The two thighs The two legs The bones	Sweda (sweat) Rasa (chyle) Lasikã (the watery portion of the muscles and skin) Rakta (blood)	Uras (thorax) Sirah (head) Grivã (neck) Medas (fat) The joints

Special Notes The following terms are important in this study: Clarification of following terms are made to clarify different views of Charaka and Susruta.

1. *Ãmãsaya* and *Pakvãsaya*
2. The seat of *Pitta*

1. Ãmãsaya and Pakvãsaya

Ãmasaya has been mentioned by Charaka as the seat of both *Pitta* and *Kapha*. Susruta, however, mentioned *Ãmãsaya* as the seat of *Kapha* only. We observe that Charaka has described *Ãmãsaya* as being situated between the umbilicus and the nipples (CS. Vi. 2).

Charaka's *Ãmãsaya* is that part of the alimentary canal where digestion of food primarily takes place. So, this *Ãmãsaya* is the stomach together with the first part of the intestines, i.e., duodenum, which is situated just above the umbilicus. When Charaka says that the seat of *pitta* is *Ãmãsaya*, he means the lower portion of it, the duodenum. The seat of *kapha* is the upper portion of *Ãmãsaya*, the stomach (CS. Su. 20). Susruta's *Ãmãsaya* is the stomach alone and when he says that the seat of *Pitta* is between *Ãmãsaya* and the *Pakvãsaya*, he means the duodenum.

Regarding *Pakvãsaya*, we find *Charaka* used the term *Purisãdhãna* (receptacle for faeces) and mentioned the term *Pakvãsaya* as the special seat of *vãyu*. Susruta mentioned *Sroni* (hip/bone) and *Gudã* (Anus), i.e., in the pelvic cavity. So by *Pakvãsaya*, we should understand the rectum and the sigmoid colon, i.e., the last portion of the large intestine.

Susruta also mentioned, the seat of *vãyu* as *Pakvãdhãna* (receptacle for the fully digested food) and *Gudã* (CS. Ni. 1) *Gudã* means the *Gudã-Nãdi*, i.e. the rectum.

Vãgbhata also said that fully digested food, i.e., faeces collect in *Pakvãdhana* or *Pakvãsaya* (AH. Su. 12). The term, however is generally used for the portion of the intestine below the umbilicus.

Thus, we find during digestion of food, fresh *Vãyu* is produced largely in the intestines, *pitta* in the duodenum and *Kapha* in the stomach. So, these places have been called the special seats of *Vayu*, *Pitta* and *Kapha*.

2. The Seat of Pitta

There is not much confusion regarding the seats of *vãyu* and *kapha*, but Charaka and Susruta apparently differ in opinion with regard to the seat of *pitta*.

Above, we find that *Sweda, rasa, lasikã, rakta* and *agnãsaya* (duodenum) have been mentioned as the general seats of *pitta* by Charaka, corresponding to the eyes, heart, skin, liver, spleen and duodenum by Susruta. Both have described duodenum as the special seat of *pitta*, because it is in this place that fresh *pitta* is generated within the body.

We observe that Charaka mentioned *Rasa* (chyle) as the seat of *pitta*, and Susruta mentioned *Hridaya* (heart) which has been described as the receptacle of *Rasa*. So, the *Rasa* must also reside in the heart.

In this way, we have the quality *Lasikã* corresponding to the skin, where *Lasikã* is largely found, and blood corresponding to the liver and spleen, which are the receptacles of blood.

As regards the term *sweda*, it ordinarily means sweat; it also means vapour, i.e., say water in combination with *Tejas* or heat. Susruta mentioned *Dristi* as one of the seats of *pitta*. In a general sense *Dristi* is the eye; in a specific sense, it is the pupil. In eyes there are four *patalas* (protective covers of the pupil), of these outer consists of a luminous fluid and the next one of flesh.

The third is made of fat and beyond it there is one consisting of bones (SS. Ut. 1). According to Susruta, the outer cover of the pupil is '*Tejo-jalãsritã*', i.e., consisting of *tejas* (heat) mixed water. Charaka mentioned *sweda* (sweat) as one of the seats of *pitta*, he meant this *Tejobala* or aqueous humour in the eye mentioned by Susruta.

So we find that there is no discrepancy between Charaka an Susruta regarding the seat of *pitta*

GENERAL FUNCTIONS OF THE NORMAL BIOREGULATING PRINCIPLES, THE TRIDOSHA (VÃYU, PITTA AND KAPHA)

The normal functions of the *Tridoshas* are as follows:

VÃYU

Vãyu is the most predominant of all the three *doshas* and has movements in all directions, is the quickest of all and control every action of the body. That is why Sãrangadhara has said in his book *Sãragadhara Samhitã* that "*pitta* is impotent, *kapha* is impotent, the *malas* and *Dhãtus* are impotent. It is the *vãyu* that drives them all just as a cloud is driven by wind, so also these go to whatever part of the body they are brought by *vãyu*" (SãS. PK. 5). It is due to the action of *vãyu*

that the normal *pitta* and *kapha* principles circulate throughout the body along with *vāyu*. The circulation of chyle and blood is also due to the action of *vāyu*.

The principle function of vāyu is to sustain the body. According to Charaka (CS. Su. 12), the functions of *vāyu* which flows within the body are as follows:

(i) *Vāyu* maintains the machinery of the body and keeps it in good order.
(ii) It is the originator (*Provartaka*) of every kind of action of the body.
(iii) It regulates and guides the mind.
(iv) It drives senses to their respective objects, e.g., eyes can see, ear can hear, etc.
(v) *Vāyu* carries the sensation of sound, touch, etc.
(vi) It is the means of the building of the particular structures of the different *Dhātus*, the tissues of the body.
(vii) It connects the different *Dhātus* of the body.
(viii) It is the generator of speech.
(ix) It is the cause of sound and touch.
(x) It is the root cause of hearing and touch.
(xi) It is the cause of manifestations of desire and pleasure.
(xii) It inflames the body fire.
(xiii) It dries up any excess of moisture accumulated in the body.
(xiv) It is the cause of evacuation of urine, faeces and other waste matter of the body.
(xv) It is responsible for all kind of channels, fine or coarse, found within the body.
(xvi) It is the supreme agent due to which the formation of different structures of the foetal body takes place.

In brief in modern term it can be said that most of the activities of *Vāyu* in the body are due to the movement of the energy in the nerves.

Sārangadhara also said that, it is *vāyu* which is the cause of segmentation of the body (SāS. PK. 5).

Charaka described the special functions of vāyu (CS. Su. 18) as follows:

(i) Effort
(ii) Inhalation and exhalation
(iii) Proper action of speech, mind and body
(iv) Proper direction or flow of one *Dhātu* to the next nourishing *Dhātu*
(v) Proper evacuation of excretory matter

This is in striking agreement with Susruta. He said that *vāyu* sustains the body by performing the following five-fold functions (SS. Su. 15)

(i) *Praspandana*: Breathing and other rhythmic movements of the body
(ii) *Udvāhana*: Carrying of the *Dhātus*, *Malas*, etc., to the proper places
(iii) *Purana*: Carrying the products of digestion to their proper places
(iv) *Viveka*: Proper evacuation of excreta
(v) *Dhārana*: Proper maintenance of the body

PITTA

The principal function of *pitta* is to maintain the body by supplying heat to it. The special features of *pitta*, according to Charaka (CS. Su. 18) are the proper functioning of:

(i) Sight

(ii) Digestion
(iii) Heat
(iv) Hunger, thirst and softness of the body
(v) Rediance of the body, cheerfulness and intelligence

According to Susruta (SS. Su. 15), these are:

(i) Colouration and Pigmentation
(ii) Digestion (and the production of *Ojas Dhãtu*, the ultimate product of digestion).
(iii) Sight
(iv) Intelligence
(v) Heat

KAPHA

The principle function of *kapha* is to form and preserve the body by acting as the watery substance of the body. According to Charaka (CS. Su. 18), its special functions are:

(i) Viscidity
(ii) Binding up of the joints
(iii) Solidarity of the body
(iv) Keeping up the sexual vigour
(v) Fortitude, forbearance or patience and abstinence

According to Susruta (SS. Su. 15). These are:

(i) Binding up of the joints of the body
(ii) Viscidity
(iii) Strengthening of the body
(iv) Nourishment
(v) Solidarity

So we can tabulate for *Normal Functions* (physiological) (CS. Su. 18) of Bioregulating Principles (*Doshas*) in the body as in Table 3.5.

Table 3.5

Vãta	*Pitta*	*Kapha*
Originator and regulator of all kinds of action of the body	Activates and regulates digestion	Lubricates and moistens
Regulates and guids the mind	Preserves vision	Gives firmness to the joints
Keeps action of speech, mind and body in order	Regulates body temperature	Gives hardness and stability to the body.
Evacuates excretory matters	Normal colour and appearance of skin and radiance to the body	Gives firm muscle tone and state of good nutrition
Directs flow of one *Dhãtu* to the next nourishing *Dhãtu*	Responsible for intelligence, courage and high ideals	Gives good sexual vigour

(Contd)

Vāta	Pitta	Kapha
Carries products of digestion to their proper destination	Cheerfulness	Attitude to forgive people
It is responsible for the maintenance of activities of the body	Hunger, thirst and softness of the body	
Responsible for healthier development of the foetus		

FIVE TYPES OF EACH BIOREGULATING PRINCIPLES (VĀYU, PITTA AND KAPHA)

In Āyurveda we find mention of five kinds of *Vāyu*, five kinds of *Pitta* and five kinds of *Kapha*. There is one *vāyu* but different names are given according to its different functions in different parts of the body—*Prāna, Apāna, Smāna, Udāna* and *Vyāna* has and been similar is the cases with *Pitta* and *Kapha*. The five types of *pittas* are *Pāchaka, Ranjaka, Sādhaka, Alochaka* and *Bhrājaka*. The five types of *Kaphas* are *Kledaka, Avalmvaka, Tarpaka, Bodhaka* and *Slesaka*.

In ***Charaka Samhitā***, we find no mention of five types of *pitta* and five types of *kapha*. Charaka only described five *vāyus*, because *Vāyu* is the most important *Dosha* and because the five divisions of *vāyu* are necessary for the proper treatment of diseases, so he dealt only with them. The five divisions of *pitta* and *kapha*, being not so very important for the purpose of treatment, were omitted and ignored by Charaka.

Susruta described the five *vāyus* and five *pittas* but while describing the functions of five *kapha* (SS. Su. 21), he did not directly call them by their specific names as found in *Vāgbhatd's* work *Astānga Hridaya* and other later Āyurvedic works. So, we find that only five *vāyus* were described by Charaka; five *Vāyus* and five *Pittas* by Susruta and five types of *Vāyu*, *Pitta* and *Kapha* by Vāgbhata and later authors.

Āyurveda divides each respective *Vāyu*, *Pitta* and *Kapha* into five types differing from one another by their localization in the body, and their particular functions, although together they make up the power of *vāta*, *pitta* and *kapha*. The five types of *vāyu* are responsible for the maintainance of *Prāna* in a living being. These activities are covered by the Autonomic Nervous System.

Vāyu

Vāyu is known by five different names, according to the different functions it performs in different parts of the body.

(a) ***Prāna-Vāya*** The *Prāna-Vāyu* is one of the five types of *Vāyus* that flows through the nose and the mouth and down the stomach, and by the annihilation of which life becomes extinct. According to Charaka (CS. Ni. 1) the chief sites of *Prāna-Vāyu* are the (i) Head, (ii) *Uras* (i.e., thorax including the heart and lungs), (iii) Ears, and (iv) Tongue and nose.

According to Susruta (SS. Ni. 1), the *prāna-vāyu* flows in the mouth. *Dalhana*, the commentator of the *Susruta Samhitā* said that by mouth, the head, thorax, throat and the nose are also implied.

According to Vāgbhata (AS. Su. 20 and AH. Su. 12), the *Prāna-Vāyu* stays in the head and from there it courses down to the throat and thorax. The *Prāna-Vāyu*, as a rule, is always spoken as being associated with the heart. So we can say the special seat of the *Prāna-Vāyu* is the heart. This is in

conformity with the saying of *Sāranagadhara* who said, that the *Prāna-Vāyu* resides in the heart, the *Apāna* in the rectum, the *Samāna* in the umbilicus and the *udāna* in the throat, while the *Vyāna-vayu* flows all over the body.

The normal functions of the *Prāna-vāyu* are—(i) spitting out, (ii) sneezing, (iii) Eructation (iv) Breathing (respiration) and (v) Pushing the food down the gullet.

Sārangadhara described a very particular function of *Prāna-Vāyu*. He said, "the *Prāna-vayu* after coursing through the interior of the lotus like heart goes out through the throat to drink of the outside air, after taking up the nectar of the air (We may take it to be the oxygen of the atmosphere). It enters the body again to nourish the whole body and to keep up the digestive fire," (SāS. PK. 5).

(b) ***Udāna-Vāyu*** It is that vāyu which has a special tendency to move upwards and which produces sound by vibrating the vocal cords. During expiration, the movement of inhaled air upward from the bottom of the lungs towards mouth and nose is due to *udāna-vāyu*.

According to Vāgbhata the seats of *udāna-vayu* are, (i) the navel, (ii) thorax (*uras*) and (iii) throat but Susruta did not mention *Nābbhi* (umbilicus).

The special seat of *udāna-Vāyu* is *Kantha*, (the larynx). As regards *uras* being one of the seats of *udāna-vāyu*, Sārangadhara mentioned that the receptacles of *udāna-vāyu* are the lungs. So, by '*Uras*' here, we consider lungs only (by excluding the heart).

The normal functions of the *udāna-vāyu* are—(i) the production of sound, speech, songs, etc., (ii) effort, (iii) effecting of the strength of the body. Vāgbhata adds, (iv) rousing of the mind upward, memory and intellect.

This is the special power of *udāna-vāyu*. So, it preserves physical strength, fortifies intellect, memory and understanding speech defect and stuttering is evident when the *udāna-vāyu* especially disturbed.

(c) ***Samāna Vāyu*** The special seat of the *Samāna-Vayu* is the umbilical region. Its main focus is around the umbilicus and the region of the stomach and small intestine.

Samāna-Vāyu flows to the stomach and the intestines and also through the channels which carry the sweat, urine, semen, menstrual blood and other watery substances of the body

Samāna-Vayu is essential to normal digestion with the help of *Pāchaka-Pitta*. It fans the digestive fire, *Agni* into flame and keeps it burning, selects useful substances from the chyme and supplies them to the body. It sends the waste products downwards and aids passage of waste products through the colon.

(d) ***Vyāna-vāyu*** It pervades the entire body and carries the chyle, bloods, etc., throughout the body. Vāgbhata mentioned that it resides in the heart and thence flows all over the heart.

The functions of *vyāna-vāyu* are: (i) to effect the quick circulation of chyle, lymph, blood, etc. (ii) to effect the five actions, namely, movements upwards and downwards, contraction, expansion and movement in general (iii) to effect the outflow of sweat and blood from the body (iv) to effect the closing and opening of the eye (v) yawning and (vi) to bring semen (spermatozoon) inside the vaginal cavity and help it to combine with the semen. *Vyāna-vayu*'s main focus is on the heart.

(e) ***Apāna-vāyu*** It is that *vāyu* which has a natural tendency to move downwards and go of the body. Its special seat is *Gudā* or the rectum. According to (SS. Ch. 28), the seats of *Apāna-vāyu* are the two testicles, the penis, the two hip joints, the bladder, the thigh and the umbilicus.

Susruta mentioned (SS. Ni. 1), that *Apāna-vāyu* resides in the Pakvāsaya, the rectum with the sigmoid colon. From here it flows to the bladder, the organs of generation, the thighs and to umbilicus.

The main functions of the *Apāna-vāyu* are to bear down the foetus and to bring down urine, faeces, semen and menstrual blood. It moves in the entire urogenital tract. It regulates defaecation, urination, menses, labour pains and ejaculation.

Finally we infer that most of the functions of the five types of *Vāyus* are those of the modern 'nerves'.

The respective seats and normal functions of the five types of *Vāyus* are given in Table 3.6.

Table 3.6

S.No.	Name of Vāyu	Locations	Normal Functions
1.	Prāna (Regulates Cerebrospinal Sytem)	– Heart (Special seat) – Head, Brain – Uras (Heart and Lungs) – Ears, Nose, Tongue	– Respiration – Pushing the food down the oesophagus – Eructation, Sneezing, Spitting
2.	Udāna (Regulates Respiratory Autonomics)	– Kantha (Larynx) is the special seat – Umbilicus – Uras – Throat	– Production of sound, speech and songs – Effort – Effecting of the strength of the body
3.	Samāna (Regulates Digestive Autonomics)	– Umbilical region (special seat) – Stomach – Intestines – Channels carrying sweat, urine, etc.	– To excite the digestive fire – To help digesting the food – To separate the products of digestion – To send the waste products downward
4.	Vyāna (Regulates Circulatory Autonomics)	– Throughout the body	– To effect the quick circulation of chyle, lymph, blood, etc. – To effect the movements of the body and the outflow of sweat and blood from the body – Yawning – Winking of the eyes
5.	Apāna (Regulates Pelvic Autonomics)	– Rectum (special seat) – Large intestine – Bladder – Organs of generation – Thighs – Umbilicus	– To bear down the foetus – To bring down urine, faeces semen and menstrual blood – To exert a downward pull upon the body vāyu

Pitta

Like the five types of *Vayu,* the *Pitta's* are also of five types. They are as follows:

(a) ***Pāchaka-pitta*** It is that *Pitta*, which is situated between the *Āmāsaya* and *Pakvāsaya*, digests the food and is known as Pāchaka (digestive). It is a transparent and a very hot liquid secreted in the duodenum during the digestion of food.

Elder Vāgbhata said, "Of the five *pittas*, that which is situated intermittently between the *Agnāsaya* and *Pakvāsaya*, though composed of the five *Bhutas*, the quality of the *Tejas* element is in a very predominant degree."

It digests food and then divides it into a fine and a waste-part and from its own place it helps all other *Pittas* of the body. This internal fire is called the *Pāchaka-Pitta* (AS. Su. 20). The *Pāchaka-Pitta*'s nature is that of very strong acid.

The special seat of *Pāchaka-Pitta* is described as the situation between the stomach and the intestine, i.e., in the duodenum. There is another term in Āyurveda, the *Agnāsaya* or the receptacle of *Agni* or fire, situated to the left of the *Nābhi*. We can consider this as pancreas. The pancreatic juice is secreted in the duodenum where the bile is poured from the gall-bladder. Together these two digest the food.

The duodenum in the middle with the gall-bladder on the right and the pancreas on the left together with the connecting ducts may be looked upon as a single organ involved with the process of digestion. Its position is intermediate between the *Āmāsaya* (stomach) and *Pakvāsaya* (intestines). Here this region is considered to be the seat of *Pāchaka-Pitta*.

The functions of the *Pāchaka-Pitta* are to (i) digest the food, (ii) reduce the food into a five part, the *Rasa* (chyle) and a waste part (urine, faeces and sweat).

According to the ancient concept, like the sun, which preserves the animal and vegetable kingdoms by supplying heat and radiation, despite being situated in space and at a distance from the earth, the *Pāchaka-Pitta* preserves the heat of all the *Dhatus* of the body, including the other *Pittas*, by its own intense thermal properties, despite being situated in the middle of the body. Thus it helps to preserve life.

(b) ***Ranjaka-Pitta*** This *Pitta* is situated in the liver and spleen and is bright red in colour. But curiously enough, the two vāgbhatas mention the *Āmāsaya* as the seat of *Ranjaka* (meaning that which colours) *Pitta*. This view can never be supported if *Āmāsaya* is meant to be the stomach. The one and only function of the *Ranjaka Pitta* is to impart red colour to the *Rasa*.

(c) ***Sādhaka-Pitta*** It is situated in the heart and with its special power drives away *Tāmas* and hence is called *Sādhaka* (that which helps). It is the finest of all *Pittas*. The *Sādhaka-Pitta* is instrumental in the proper functioning of the intellect and memory. In Āyurveda the heart is regarded as the seat of consciousness as the clear picture of heart and brain were not available in those days. Charaka mentioned *Mastulunga* or head at six places without giving any details. People in the ancient days knew that the *manas*, mind works inside the head and its reflections are the feelings that take place in the heart. In fact heart was known to be the mirror of the mind. This is the reason why consciousness was added to the anatomical heart in the chest. People knew very well that by meditating on the heart or by meditating on the area between the eyebrows on the forehead, a fast beating heart could be brought under control. They also knew that while practising meditation by concentrating mind at the heart region on a bright light, called the *Hridayapundarika*, the concentration ultimately used to get fixed at the region between the eyebrows, that is why the seat of *Hridaya* is mentioned in *yoga* texts also as the two-finger area on the forehead known as *Dwaya-Angula* area, or the third-eye area.

The functions of *Sādhaka pitta* have, therefore, been affiliated to memory, intelligence, emotions, clarity of thought, enthusiasm of mind and their functioning depended on a balanced *Sādhaka Pitta*.

(d) ***Ālochaka-Pitta*** It is situated in the pupil of the eye and is called the *Ālochaka* (that which gives vision) Pitta. Its function is to keep up the normal vision. Its main seat is the aqueous humour of the eye.

(e) ***Bhrājaka Pitta*** It resides in the skin and is called the *Bhrājaka* (that which shines) *pitta*. It is called *Bhrājaka* because it imparts a natural glow to the skin.

Pitta in the body acts both in the form of fine (*Suksma*) and the gross (*Sthula*) state. All the five types of *Pitta* possess the general properties of *Pitta*, namely heat, liquidity and activeness. But each of them has its own definite form (*Ākriti*), one form being different from the other.

The *Sãdhaka* and *Ãlochaka*, e.g., are in a very fine state and so the distinctive qualities of *Pitta* may remain unmanifested or so very finely manifested that they cannot be ordinarily perceived. The *Pãchaka* and *Ranjaka*, on the other hand, are gross forms of pitta. The *Pãchaka* is a clear transparent liquid; it is a secretion having the properties of a strong acid. The *Ranjaka* is a red-coloured active liquid. The *pitta* contained in every cell of the body must necessarily be in a fine state (the cells itself being microscopic in size). Despite this, it must be of the nature of a strong, hot liquid.

Table 3.7 shows respective seats and functions of *Pitta* that are in tabular form.

Table 3.7

S.No.	Name of Pitta	Location	Normal Functions
1.	Pãchaka	Between Amãsaya and Pakvãsaya (duodenum)	—To digest food —To reduce the food into rasa (chyle) and excreta —To supplement the other four pittas and thus keep up the heat of the body
2.	Ranjaka	Liver and Spleen	—To impart red colour to Rasa and convert it into blood
3.	Sãdhaka	Heart and Brain	—To help realize one's desires —To maintain the intellect and memory
4.	Ãlochaka	Eye	—To keep up normal vision
5.	Bhrãjaka	Skin	—To digest an oily substance —To irradiate the glow of one's complexion

Kapha

The five types of *kaphas* are as follows:

(a) ***Kledaka-Kapha*** The *Kapha* that is situated in the stomach, moistens the food and further breaks it up is called the *Kledaka* (that which moistens). It is generated in the stomach as a foamy secretion when any food reaches there. Remaining at this place, it nourishes the *Kapha* of all other parts of the body, by its special humid properties.

(b) ***Avalamvaka-Kapha*** It is situated at the thorax, protects the heart from any excessive heat through its cooling influence and gives it special strength and thus is called the *Avalamvaka* (that which supports).

The functions of the *Avalamvaka-Kapha* are as follows:

(i) To sustain the heart with the help of *Rasa-Dhãtu*.

The fine parts that are produced as a result of digestion of food in the duodenum are called the food *Rasa*. These are further digested by its own heat, producing a finer *Rasa*, the *Rasa-Dhãtu*, which goes to the heart.

There is a difference of opinion between Susruta and Vãgbhata about this point. Susruta said that the *Kledaka-kapha* nourishes all other *Kaphas*, while *Vãgbhata* is of the opinion that it is the

Avalamvaka which forms its place in the heart and nourishes all other places of *sleshmā* by its humid properties. Considering the fact that it is in the stomach, the seat of *Kledaka Kapha*, that a profuse *Kapha*-secretion takes place, and considering also the fact that if the deranged *Kapha* in *Āmāsaya* is ejected out of the stomach by an emetic, all other *kaphas* in the body are appeased (CS. Su. 20). Susruta's view that the *Kledaka-Kapha* in the stomach is the root cause of all other *Kaphas* seems to be the correct one.

Similarly in the case of *pitta* also, it is the *Pāchaka Pitta*, i.e., the profuse *pitta*-secretion in the duodenum, which is the root of all other *pittas*. It can be said, it is the fly-wheel of all *pittas* in the body.

(ii) The *Avalamvaka-slesman* supports the Trika (SS. Su. 21). *Trika* literally means triple or three-fold, it also means traingular. So, by *Trika* here we understand the joint between the scapula clavicle and humerus. We may, however, say that the *Avalamvaka-slesman* supports the traingular bone, scapula in position.

(c) ***Bodhaka-Kapha*** It moistens any substance, when it comes in contact with the tongue and thus helps the sense of taste to perceive the taste of the substance. Literally *Bodhaka* means that which causes perception.

The seats of *Bodhaka-Kapha* are the roots of the tongue and the throat. The saliva that is secreted in the cavity of the mouth mainly consists of the *Bodhaka-Kapha*.

(d) ***Tarpaka-Kapha*** It appeases or cools the sense organs (the sense of sight, of hearing, of smell, etc.) and this is called the *Tarpaka* (that which satisfies). Its seat is the skull. It is nourished by the fine parts produced on digestion of the *Rasa-Dhātu*, which is found near the brain matter. Due to its association with the brain-matter, this particular *Kapha* has a special soothing effect by virtue of which it maintains the *indriyas* (organ of senses) in proper order.

(e) ***Slesaka-Kapha*** It is that *Kapha*, which being situated at the joints, keeps them firm and is called *slesaka* (that which joins). Due to the friction of the bones at the joints, there is production of heat and the *slesaka-kapha*, by its viscid property prevents the generation of any excessive heat in the joints, thereby protecting the bones from undue waste. It lubricates the different articulations of the body and thus helps them remain firm and allows the free movement of the bones.

The waste-matter that is produced out of digestion of the *Rasa-Dhātu* which circulates throughout the body nourishes the *slesaka-kapha*. It accumulates specially in the joints.

Table 3.8 gives the respective seats and normal functions of the five types of *Kapha*.

Table 3.8

S.No.	Name of Kapha	Locations	Normal Functions
1.	Kledaka	— Āmāsaya (stomach)	— To moisten the food and to break it up. Responsible for gastric lubrication
2.	Avalamvaka	— Uras (tharacic cavity–heart and lungs)	—To protect the part from any excessive heat thus enabling it to perform its function properly — To support the shoulder blades in their proper positions

(Contd)

S.No.	Name of Kapha	Locations	Normal Functions
3.	Bodhaka	— Root of the tongue — Throat	—To help in perception of taste by stimulating the moist character of the tongue
4.	Tarpaka	— Skull and Brain	— To cool the different sense organs. Cerebrospinal lubrication
5.	Slesaka	— Joints	— To keep the joints firmly united — To lubricate and protect the different articulations

Special Notes Clarification of the terms ***Uras, Nābhi*** and ***Hridaya***

Uras

We observe here that '*Uras*' as the thoracic cavity (which includes the heart and the lungs) has been mentioned as the seat of both *Prāna* and *Udāna Vāyus*.

Chakrapāni, the commentator of *Charaka-Samhita* suggests (CS. Ch. 28), that it is like a florist and a potter working in the same room. Just as both these men can go out for business to different places and then come back to the same room without obstructing each other, the *Prāna* and *Udāna Vayus* also reside in the same place without hindering the functions of the other.

The *Uras* again is the seat of *Avalamvaka Slesman* and the heart (included in *Uras*) is the seat of *Prāna Vāyu* and of the *Sādhaka Pitta*. This is like a man, a dog and a cat living in the same room. These different creatures may live together peacefully in the same room, each minding his own business; but if any one of them is disturbed, the disturbance is certain to be transmitted to the others.

Nābhi

Nābhi is the umbilical region, which is also of great importance, especially with regard to the *Vāyus*. It is the special seat of *Samāna-Vāyu* because the latter is located throughout the body.

The *Prāna* and the *Udāna-Vāyus* flow down to the umbilicus, while the *Apāna-Vāyu* courses up to that place. The seat of *Pāchaka-Pitta* is the duodenum, which may be taken to be *Nābhi*. *Nābhi* has been described as the place from which all the channels of the body take their origin.

Hridaya

Hridaya or the heart is the seat of *Prāna-Vāyu*, *Sādhaka-Pitta* and *Avalamvaka Kapha*.

Hridaya is the seat of *Rasa-Dhātu* (SS. Su. 14). It is also the seat of *ojas*, the essence of the seven *Dhātus* (Tissues of the body), by the loss of which the body itself is destroyed (CS. Su. 17).

The *Hridaya*, again has been described by *Srikantha Datta*, commentator of *Mādhava-Nidāna* text, as the site of all *Sirās* or blood vessels of the body.

CAUSES OF DERANGEMENT OF DOSHAS

In this section we will discuss the specific causes which aggravate the Bioregulating Principles, *Vāyu, Pitta* and *Kapha*. Susruta and the two Vagbhatas enumerated them (SS. Su. 21; AS. and AH. Ni. 1).

VĀYU

Vāyu is aggravated by the following:

(i) Wrestling with one of superior strength or with fierce animals
(ii) Excessive fighting
(iii) Excessive gymnastics or manual labour
(iv) Excessive sexual indulgences or waste of any body *dhātu*
(v) Excessive study
(vi) Speaking or reading in a very high pitched voice
(vii) Excessive mental exercises
(viii) Fear, grief or anxiety
(ix) Falling from a great height
(x) Excessive running, or walking long distances
(xi) Limping gait
(xii) Excessive swimming or swimming against current
(xiii) Excessive riding on horses, elephants, etc., or excessive use of carriages
(xiv) Excessive fasting or eating or eating irregularly
(xv) Suppressing the calls of nature, i.e., the passing of wind, urine, faeces, semen, etc.

Vāyu is also *aggravated* by the partaking of too much bitter, pungent, astringent or dry substances, by very light food, by dry meals, and by continuous use of some particular kind of pulses and rice (*Moong, Masur, Ādhaki, Harenu*, etc.) mentioned by Susruta.

Vāyu is naturally *aggravated* in the cold and rainy seasons, especially on cloudy and stormy days in the early morning, in the evening and at the completion of the digestive process.

PITTA

Pitta is aggravated by

(i) Anger
(ii) Grief
(iii) Fear
(iv) Physical exercise
(v) Indigestion and acid formation in the body and
(vi) Unnatural sexual intercourse.

Pitta is aggravated by the partaking of too much of bitter, acidic, salty and dry substances and by using in excess mustard, sesame and linseed oils, fish, mutton, some of the green leafy vegetables, wines, curd, whey, etc. and also by excessive exposure to the sun. Strongly flavoured meals, i.e., food containing too much chillis, pepper or nutmeg, too much acid fruit or sour milk

or yogurt are basically heat producing food and have a penetrating property. They increase the metabolic rate, strengthen the circulation of blood and stimulate the functioning of the glands.

Pitta naturally gets aggravated in the summer and in Autumn seasons, at noon, at midnight and during the process of digestion.

KAPHA

Kapha is aggravated by:

(i) Total lack of physical exercise
(ii) Sedentary habits
(iii) Sleeping in day time, and
(iv) The partaking of too much sweet, acid, salty food, cool and oily substances

Kapha is also aggravated by heavy food and by excessive use of milk, acid, curd, sugar, fats, wheat, cakes, sweat fruits, meat of aquatic animals, etc. Examples of such food-stuffs are fats, carbohydrates, an excess of sugar or salt. In general, overeating will bring about an increase in *kapha* and so will any snack taken before the previous meal has been digested.

Kapha is naturally aggravated in the winter and in the spring, in the forenoon and in the evening and just after taking meal.

FUNCTIONS OF DERANGED DOSHAS

When the Bioregulating Principles, the *Doshas* get deranged, they manifest some abnormal symptoms due to their malfunctioning within the body.

The deranged *doshas* manifest as follows:

VĀYU

The normal characteristics of *vāyu* are dryness, lightness, clearness, motility and invisibility. Charaka said that when *vāyu* affects particular parts of the body, it shows by the following activities—fatigue, thirst, shivering, roughness of the body, reddishness of the skin, pungent taste in mouth and various kinds of pain.

When these symptoms are manifested in the body, we infer that they could be due to the malfunctioning of *vāyu* (CS. Su. 20).

When *vāyu* gets aggravated, it produces headache and pain all over the body, especially in the backbone, lameness, sleeplessness, etc. It may then destroy the foetus, the semen, the menstrual blood or bring confusion to the sense and even cause death.

The aggravated *Vyāna-Vāyu* affects the whole body. When both the *Apāna* and *Vyāna* are aggravated, they affect the semen and produce *Prameha*, diseases of the kidney, etc. When all the *vāyus* are simultaneously vitiated, they destroy life.

The increased *vāyu* results in unusual talkativeness, demandingness, and readiness to take decisions without considering them carefully enough. This type of individual gets easily irritated and is quick and unthoughtful in his likes and dislikes. Another noticeable trait is the

speed with which he takes things in and the speed with which he forgets them. The aversion to cold is typical in them.

The five types of aggravated vāyu producing diseases are as follows:

Table 3.9

1.	Prāna–Vāyu	Hiccough asthma, cough, etc.
2.	Udāna–Vāyu	Diseases of the ear nose, throat, etc.
3.	Samāna–Vāyu	Tumour, diarrhoea, loss of appetite, etc.
4.	Apāna–Vāyu	Diseases of the urinary tract and colon
5.	Vyāna–Vāyu	Diseases all over the body

The decrease or the deficiency of *Vāyu* is marked by a state of langour, uneasiness and loss of consciousness (CS. Su. 17; SS. Su. 15 and 21).

The excess of *vāyu* is marked by hoarseness of voice, thinness of the body, darker complexion, desire for heat, throbbing sensation, hard stool, insomnia and weakness.

The deranged *doshas*, the Bioregulating Principles, being vitiated by various causes would expand and overflow the limits of their respective localities.

The *vāyu* which is of an extremely mobile character should be looked upon as the main instrument of this expansion (*Prāsāra*).

The *vāyu* thus aggravated and expanded, tends to deviate from its path and normal direction and gives rise to swelling or distension of the abdomen, accompanied by a rumbling sound in the intestines.

When the deranged *doshas* are slightly aggravated, they are inoperative in the internal passages of the body, but they may bring about a fresh disease, rather of a malignant type, if subsequently agitated by any disturbing element.

PITTA

The deranged or increased *pitta* gives rise to burning sensation and excessive heat in the body, perspiration, acidity, thirst, irritation, pimples on skin, redness of the eyes and of the body or any colour in the body other than white or orange-brown (*aruna*), putrid smell, decomposition, langour, hysteria, etc. (CS. Su. 20; AS. Su. 20 and AH. Su. 12).

The deranged five types of *pitta* produces the disorders shown in Table 3.10.

Table 3.10

1.	Pāchaka–Pitta	Indigestion, acidity, burning sensation in the heart, throat, stomach and thirst, etc.
2.	Ranjaka–Pitta	Rakta-pitta (bleeding trouble) effects the liver and spleen
3.	Sādhaka–Pitta	Destroys thinking power and produces stupar, apoplexy, etc.
4.	Ālochaka–Pitta	Destorys sight
5.	Bhrājaka–Pitta	Diseases of the skin and changes its colour

The deficiency of *pitta* is marked by a dullness of complexion and diminution of body heat (CS. Su. 17; SS. Su. 15 and 21).

Excess of *pitta* is marked by a burning sensation in the body, desire for coolness, yellowish skin, eyes, faeces and urine, insufficient sleep, fainting fits and weakness of the sense organs. *Pitta* will give rise to heat.

KAPHA

Vitiated or increased *Kapha* produces heaviness of the body, drowsiness, numbness, whiteness of the skin, itching, a feeling of coldness and rigidity, sweet taste in mouth, nausea and a general aversion to food (CS. Su. 20; AH. Su. 12).

The deranged five types of kapha produces the disorders shown in Table 3.11.

Table 3.11

1.	Kledaka–Kapha	Indigestion, loss of appetite, whiteness of faeces, urine, etc.
2.	Bodhaka–Kapha	Affects the sense of taste
3.	Tarpaka–Kapha	Produces loss of memory and vitiates the senses
4.	Avalambaka–Kapha	Produces sloth Kapha
5.	Slesaka–Kapha	Produces heaviness of joints

The *kapha* thus aggravated would produce a complete aversion to food, inertness of the limbs, vomiting and impaired digestion.

The deficiency of *kapha* is marked by dryness, sensation of internal burning, a feeling of emptiness in the stomach and other cavities of the body, looseness of the joints, weakness and insomnia.

A highly aggravated kapha is characterised by a whiteness of complexion, heaviness of the limbs, a feeling of coldness, drowsiness, excessive sleep and looseness of joints (CS. Su. 17; SS. Su. 15 and 21).

The causes which bring about derangement of *doshas* and the abnormal symptoms of vitiated (increased or disturbed) Bioregulating Principles, the *doshas* are given in Table 3.12.

Table 3.12

S.No.	Dosha	Causes of Derangement	Abnormal Symptoms	
1.	Vāyu	Heavy exercise, fasting, falling from a height, fracture, wakefulness, suppressing the calls of nature, excessive cold and fear; habituation to pungent, bitter, astringent and dry things Natural aggravation at the clouding of the skies, after meals, in the afternoon	—Tympanitis —Roughness of the skin —Eruption —Excitement —Shivering —Pain of various kinds and all over the body —Hoarseness of voice —Fatigue —Deafness —Melancholia —Yawning —Dryness —Thirst —Shaking —Reddishness of skin	—Pungent taste in mouth —Headache —Sleeplessness (Insomnia) —Stiffness —Darker complexion —Hard stool —Weakness —Deficient secretion of gastric and other digestive juices —Progressive weakness —Unusual talkativeness
2.	Pitta	Habituation in salts and to bitter, sour, acrid and very hot things, excessive anger and cohabitation, indulgence in drinks Natural aggravation during meals, in Autumn, in the middle of night and, at noon	—Acidity —Delirium —Swooning —Perspiration —Restlessness —Thirst —Desire for cold —Anxiety —Paleness of skin —Yellowishness of skin, eyes, faeces and urine —Intolerance in hot things	—Burning sensation and excessive heat —Irritation —Redness in the eyes —Any colour of skin other than white —Putrid smell —Decomposition —Languor —Fainting fits —Hysteria —High temperature —Weakness of the sense organs

(Contd)

S.No.	Dosha	Causes of Derangement	Abnormal Symptoms	
	Kapha	Indulgence in cold, heavy and sweet things, excessive use of milk, ghee and such articles, sleeping during daytime Natural aggravation in the beginning of a meal, during snowfall, in the morning, and in spring season	—Heaviness of the limbs —Drowsiness —Constipation —Dieting —Itching —Whiteness of skin —A feeling of coldness and rigidity —Sweet taste in the mouth	—Nausea —Aversion to food —Impaired digestion —Coughing and Respiratory troubles —Stiff joints —Shivering —Dribbling of saliva —Excessive sleep —Vomiting —Laziness —Tiredness

Symptoms of decreased or reduced *doshas,* the Bioregulating Principles are given below in Table 3.13.

Table 3.13

Vāta	Pitta	Kapha
A reduction of Vāta activity in the body shows symptoms of: —Slowing down of all body activities —Fits of depression —Flabbiness of the limbs —Reduced receptivity —Difficulty in putting words together fluently —Symptoms are similar to those caused by an increase in Kapha —Due to all those substances and factors that are employed in treating an increased Vāta	Symptoms of weakened Pitta activities are: —An obvious loss of body heat —Diminution of body heat —Poor appetite —Loss of normal healthy glow, loss of lusture —Can be due to those factors that are employed in treating an increased Pitta	Weakend Kapha activity gives: —Rough skin —A rise in temperature —Weakness in the joints —Thirst —General dibility —Insomnia —A sinking feeling

ACCUMULATION OF THE DOSHAS

Seasonal effect on the *doshas* in the body has been dealt with in Table 3.14 (CS. Vi 8; SS. Su. 6).

Table 3.14

S. No.	Dosha	Seasonal Effects
1.	Vāta	The plants and vegetables lose their moisture and nutritive elements in summer and become dry and light. This is the reason why, *vāyu* is accumulated in summer, the most characteristic property of *Vāyu* being dryness. The *Vāyu* thus accumulated in summer is disturbed by the cold winds in the rainy season and gives rise to *vāta* type of diseases.
2.	Pitta	In the rainy season plants sprout fresh leaves and water beomes turbid. One has to take in new-grown vegetables of feeble potency to drink the soiled water. This causes accumulation of *pitta* in the human body, because of the acid reaction of the food. The *pitta* thus accumulated in the rainy season, becomes manifested in Autumn, season in which we find a preponderance of *pitta* type of diseases
3.	Kapha	In early winter (*Hemanta*), the plants mature, water becomes cold, clear and heavy and the sun's rays are mild. The water and vegetables part taken in *Hemanta* season give rise to an accumulation of *kapha* in the body on account of their heaviness and cold character. This accumulated *kapha* finds expression in spring season and so brings about *kapha* type of diseases

Natural accumulation, aggravation and mitigation of *doshas* have been dealt with in Table 3.15.

Table 3.15

S.No.	Dosha	Accumulation in	Aggravation in	Mitigation in
1.	Vāyu	Summer	Rains	Autumn
2.	Pitta	Rains	Autumn	Early winter
3.	Kapha	Early winter	Spring	Summer

DISEASES AND DISORDERS MAINLY CAUSED BY ONE DOSHAS

VĀTA

The classical texts mention eighty diseases or symptomatic disorders caused by an unbalanced state of *Vāta*. They are enumerated in Table 3.16 (CS, Su. 20).

Table 3.16

S.No.	Sanskrit Names	English Equivalents
1.	Nakhabeda	Cracking of nails
2.	Vipādikā	Cracking of feet
3.	Pādasula	Pain in feet
4.	Padabhramsa	Flat foot, while walking steps do not fall on the right place
5.	Pādasupta	Numbness of feet
6.	Vātakhuddatā	Pain in hip-joint
7.	Gulphagraha	Sprained ankle or stiff ankle
8.	Pindiko-vestana	Cramps in the calf
9.	Gridhrasi	Sciatica
10.	Jānubheda	Bow legs or genu verum
11.	Jānuvilesa	Knock-knees or genu valgum
12.	Urusthamba	Paralysis of the thigh or stiffness of the thigh
13.	Urusāda	Atrophy of the thigh muscles or pain in the thighs
14.	Pāngulya	Deformed foot or lameness
15.	Gudabhramsa	Prolapsed anus
16.	Gudarti	Rectal proctalgia or pain in anus or tenesmus
17.	Vrisnotksepa	Raised up testis not coming down. Pain in the testis or pain in the scrotum
18.	Sophasthambha	Stiffness of the penis
19.	Vanksanabha	Tension in groin
20.	Sronibheda	Pain around pelvic girdle
21.	Vidbheda	Diarrhoea
22.	Udāvarta	Paralysis of the intestines
23.	Khanjatva	Lameness
24.	Kubjatva	Hunch-back condition or kyphosis
25.	Vāmanatva	Dwarfness or dwarfism
26.	Trikagraha	Neuralgic pain in sacral region or arthritis of the sacro-iliac joint
27.	Pristhagraha	Stiffness of the back
28.	Pārsvā-vamarda	Painful spasms in chest with breathing difficulty or pain in the chest muscles.
29.	Udaravesta	Gripping pain in the stomach
30.	Hrinmoha	Cardiac irregularity or heart block or bradycardia or heart failure
31.	Hriddrava	Tachycardia or palpitation
32.	Vaksha-udgarsa	Rubbing pain in the chest, i.e., in the lungs
33.	Vaksha-uparodha	Impairment of thoracic movement

(Contd)

S.No.	Sanskrit Names	English Equivalents
34.	Vaksha-stoda	Stabbing or stitching pain in the chest or lungs
35.	Vãhusosha	Atrophy of the arm
36.	Grihva-stambha	Rigidity of neck muscles or stiffness of neck
37.	Kathoddh-vamsa	Hoarseness of voice
38.	Hanubheda	Dislocated or pain in jaw
39.	Manyãstambha	Torticolis
40.	Ostha bheda	Pain in lips
41.	Akshi bheda	Pain in eye
42.	Danta bheda	Toothache
43.	Dantasaithilya	Looseness of teeth
44.	Mukhatva	Dumbness or aphasia
45.	Vãksanga	Lulling speech or inability to speak properly
46.	Kasãyãsyatã	Astringent taste in mouth
47.	Mukhasosha	Dryness of the palate and tongue or dryness of mouth
48.	Arasagyatã	Loss of taste and sensation by the tongue
49.	Ghrãnanãsa	Anosmia
50.	Karnasula	Ear ache
51.	Asabda-sravana	Tinnitus
52.	Ucchaisruti	Hard of hearing
53.	Badhirya	Deafness
54.	Vartma-samkocha	Retracted eyelids or entropion
55.	Vartma-stambha	Rigidity of the eyelids or ptosis of the eyelid
56.	Timira	Partial loss of vision or ameurosis
57.	Aksiyudãsa	Eyeballs looking upwards or raised upwards
58.	Bhruvyudãsa	Eyebrows raised or streched upwards
59.	Sankhabheda	Migraine or pain in the temporal region
60.	Lalãtabheda	Frontal headache
61.	Siroruk	Headache
62.	Kesabhumi-sphutana	Fissures of the scalp or dandruff
63.	Ardita	Facial paralysis
64.	Ekanga roga	Monoplegia
65.	Paksãvyãdha	Hemiplegia
66.	Sarvãnga roga	General paralysis or paraplegia
67.	Ãkshepa	Clonic convulsions
68.	Dandaka	Tonic convulsions
69.	Shrama	Tiredness
70.	Vepathu	Shivering or tremor
71.	Jrimbhã	Yawning
72.	Hikkã	Hiccup
73.	Bhrama	Giddiness

(Contd)

S.No.	Sanskrit Names	English Equivalents
74.	Visāda	Unhappiness or not pleased
75.	Atipralāpa	Delerium
76.	Rukshatā	Dryness
77.	Pārusya	Hardness or harshness
78.	Syavaruna-dhasata	Dusky red appearance on the body or a part or it
79.	Aswapna	Sleeplessness or insomnia
80.	Anavasthita chitva	Mental instability

PITTA

Diseases and physical disorder (*Vikāras*) of *Pitta* as mentioned in the classical texts, are of forty types. These are enumerated in Table 3.17 (CS. Su. 20).

Table 3.17

S.No.	Sanskrit Names	English Equivalents
1.	Osa	Heat stroke, intense burning sensation with sweating
2.	Plosa	Scorching of the skin; Burning sensation without sweating
3.	Dāha	Burns; Burning sensation all over the body
4.	Dawathu	Burning sensation in sense organs like eyes, etc.
5.	Dhumaka	Fumes coming up feeling in head, throat, pharynx, etc.
6.	Analaka	Acid eructation; burning sensation inside
7.	Vidāha	Burning sensation in hands, feet, etc.; suppurated swelling
8.	Antardāha	Burning sensation in the body
9.	Āmsadāha	Local burning sensation in any part of the body
10.	Usmādhikya	Very high temperature
11.	Atisweda	Excessive sweating
12.	Angasweda	Sweating from any particular part
13.	Angagandha	Body odour
14.	Anga-vardhana	Local fissures on the surface of the body
15.	Sonitakleda	Pernicious anaemia; Blood blackish, thin and smaller
16.	Māmsakleda	Softening and degeneration of muscular tissues
17.	Twagdāha	Burning sensation of skin
18.	Māmsa Dāha	Burning sensation in the muscles
19.	Twaga-vadarana	Scaly skin, cracking of the skin
20.	Charmā-vadarana	Itching and deep cracking of the skin
21.	Raktakotha	Urticaria

(Contd)

S.No.	Sanskrit Names	English Equivalents
22.	Raktapitta	Bleeding tendency
23.	Haritatwa	Greenishness, sallow skin
24.	Nilikã	Blue moles
25.	Kakshã	Herpes
26.	Kãmalã	Jaundice
27.	Ratamandala	Red wheals
28.	Haridrãtva	Yellowishness
29.	Tiktãsyatã	Bitter taste in the mouth
30.	Putimukhatã	Foetid smell from the mouth
31.	Trisnãdhikya	Excessive thirst
32.	Atripti	Morbid hunger; non-satisfaction in food
33.	Asyãpãka	Stomatitis
34.	Galapãka	Pharyngitis, suppurated inflammation of the throat
35.	Akshipãka	Conjunctivitis
36.	Gudãpãka	Proctitis of the anus
37.	Medhrapãka	Inflammation of the penis
38.	Jivadana	Haemorrhage
39.	Tamahpravesa	Fainting; Total unconsciousness
40.	Haritharidra netra, Mutra varchastva	Greenish and yellowish colouration of eye, urine and faeces

KAPHA

Diseases and disorders (*Vikãras*) caused mainly by *kapha* as mentioned in the classical texts, are twenty in number. These are enumerated in Table 3.18. (CS. Su 20).

Table 3.18

S.No.	Sanskrit Names	English Equivalents
1.	Tripti	Feeling of full abdomen; no feeling of hunger
2.	Tandrã	Drowsiness
3.	Nidrãdhikya	Excessive sleepiness
4.	Staimitya	Feeling of wet cloth covering the body's timidness
5.	Gurugãtratã	Heaviness of the body
6.	Ãlasya	Lassitude, lethargy in the body
7.	Mukha-Mãdhurya	Persistant sweet taste in the mouth
8.	Mukhasrãva	Excessive salivation from the mouth
9.	Slesmod-girana	Mucous expectoration
10.	Mala-syãdhikya	Excessive formation of faecal matter

(Contd)

S.No.	Sanskrit Names	English Equivalents
11.	Kathopalepa	Secretion of excessive mucous in the throat
12.	Balāsaka	Loss of strength
13.	Hridayopalepa	Excessive secretion of phlegm
14.	Dhamani-pratichaya	Thickening or dilatation of the blood vessels
15.	Galaganda	Tumour on the side of the neck
16.	Atisthaulya	Excessive Obesity
17.	Sitāgnita	Suppression of the digestive power
18.	Udarda	Urticaria
19.	Swetava-Bhāsatā	Pallor of the skin
20.	Swetamutra-netra varchastva	Whiteness of urine, eye and faeces

Note: It has been observed that *sārangadhara-Samhitā* also quoted eighty types of *vātaja,* forty types of *pittaja* and twenty types of *kaphaja* diseases and disorders like *charaka,* but except a few the enumeration of the names of the diseases and disorders are quite different.

The major groups to which the above mentioned diseases and disorders belong are as follows (Table 3.19):

Table 3.19

VĀTA	PITTA	KAPHA
1. All types of muscle and nerve pain. Pain occur due to the influence of *Vāta*	1. All types of inflamations and infections	1. Disorders of Respiratory system
2. All the types of convulsions and cramps	2. Liver function disorders	2. Excess production of faeces, urine and saliva
3. Paralysis and Paresis of all types	3. Diseases in which red and yellow colours appear	3. Disorder in digestion
	4. Impaired and coloured visions	4. Diabetes and poor metabolism
	5. Gastro-intestinal disorders caused by disturbed Pāchaka Pitta Symptoms are heart burn, gastritis, stomach ulcer, increased production of gastric juice, symptoms of deficient digestion and reluctance to eat	5. Feeble mindedness and reduced mental capacity
	6. Disorders which are observed in the secretions having symptoms of heavy perspiration, unpleasant body odour, not scolding or redstained faeces and urine	6. Sudden changes occuring in taste

Diseases (*Vikãras*) are basically of two types—*Nãnãtmaj* and *Sãmãnnaj*. The *Nãnãtmaj* disorders take place due to one *dosha* only as explained before, such as 80 types of *vãta* disorders, 40 types of *pitta* disorders and 20 types of *kapha* disorders. The *Sãmãnnaj* disorders occur due to more than one *dosha* and other factors. So Charaka described some diseases in *Nidãnasthãna* and *Chikitsã-sthãna*. Those described both in *Nidãnasthãna* and *Chikitsãshãna* are eight in number. They are *Jwara, Raktapitta, Gulma, Prameha, Kustha, Sosha, Unmãda* and *Apsmãra*. The others only described in *Chikisãsthãna* are *Kshatakshina, Udara, Arsha, Grahani, Pãnduroga, Hikkãswãsha, Kãsh, Atisãr, Chardi, Visarpa, Trishnã, Urushthambha, Vãtavyãdhi, Vãtasonita, Yonivyãpad*. These are also discussed in the nineteenth chapter (*Astodariya*) of *Sutrasthãna* of *Charaka Samhitã*. It is observed that in classical texts, diseases and disorders were discussed in a scattered way.

Later in the 7th century Mãdhava arranged the diseases at one place. This pattern was followed in the 11th century by Chakrapãni also. In his book, a similar type of arrangement with a little variation is observed. Later similar pattern was also observed in the texts—*Yogaratnãkara* and *Bhaisajya-Ratnãvali*. Till now this pattern is followed while writing Ayurvedic books.

But the pattern of Mãdhava in the present day is outdated. In the present day diseases are described under various systematic heads pertaining to the Gastro-intestinal system, Respiratory system, Nervous system, etc. It is easier to study diseases and disorders, if this pattern is followed. The diseases and disorders described by Madhava in *Mãdhava-Nidãna* text and in *Chakradatta* are rearranged in Table 3.20

Table 3.20 Regrouping of Diseases and Disorders as in the Texts *Mãdhava-Nidãna* and *Chakradatta*

General

1. Jwar
   —Infection
   —Influenza
   —Malaria
   —Typhoid
   —Pneumonia

Gastro-Intestinal System

1. Jwarãtisãr
2. Arochaka
3. Agnimãndya
4. Amlapitta
5. Sula
6. Parinãmsula
7. Atisãr
8. Pravãhikã
9. Grahani

(Contd)

Gastro-Intestinal System

10. Kāmala
11. Krimi
12. Gulma
13. Udāvarta
14. Anāha
15. Udararoga
16. Chardi
17. Trishnā
18. Arsha
19. Bhagandara

Respiratory System

1. Swarabheda
2. Kāsha
3. Hikka-swāsha
4. Rājayakshmā

Cardiovascular System

1. Hridroga

Nervous System

1. Apasmār
2. Unmāda
3. Murchā
4. Bhrama
5. Tandrā
6. Sannyāsha
7. Vātavyādhi

Genito Urinary System

1. Mutrakricchra
2. Mutrāghāt
3. Asmari
4. Prameha
5. Somaroga
6. Upadamsa
7. Firangaroga
8. Dhwajabhanga

(Contd)

Skin

1. Dãha
2. Slipad
3. Vidradhi
4. Vranasotha
5. Sarirvrana
6. Sadyavrana
7. Nãdivrana
8. Switra
9. Kustha
10. Sitapitta
11. Udard
12. Kotha
13. Visphota
14. Kshudraroga (60 types)
15. Vidradhi

Blood

1. Pãndu
2. Raktapitta

Paediatrics

1. Bãlaroga

Infectious Diseases

1. Masurikã (Basanta)

Rheumatism

1. Ãmavãta
2. Vãtarakta

Gynae and Obstr

1. Stanaroga
2. Stanadusti
3. Bandhyã
4. Yonivyãpad
5. Kanda
6. Sutikãroga
7. Murhagarbha

(Contd)

Miscellaneous Diseases

1. Medoroga
2. Sotha
3. Siroroga
4. Asridgar
5. Visharoga
6. Kshaya

Eye/ENT/Dental

1. Netrasarvagata roga
2. Netrakrishnagata roga
3. Shuklagata roga
4. Vartmagata roga
5. Dantagatamukha roga
6. Dantavestagata roga
7. Jihvãgatamukha roga
8. Tãlugata roga
9. Kanthagata roga
10. Savasara
11. Karnasrotagata roga
12. Karna roga
13. Nãshã roga

Table 3.21 English Equivalent terms for various diseases: Disorders and Symptoms, etc.

Diseases	English Equivalents
Jwara	
1. Vataslismic Jwara	—Influenza
2. Visam Jwara	—Malaria, Typhoid and Pneumonia
Gastro-Intestinal System	
1. Agnimãndya (Ãmãjirna, Mandãgni)	—Dyspepsia
2. Ajirna (Apachan)	—Indigestion
3. Atisãr (Dast)	—Diarrhoea
4. Antravriddhi	—Inguinal Hernia
5. Amlapitta	—Acidity
6. Arochak (Aruchi)	—Anorexia, loss of Appetite

(Contd)

Diseases	English Equivalents
7. Arsha (Babãsir)	—Piles
8. Anãha	—Flatulance, Tympanitis
9. Ãdhmãna (Afãrã)	—Flatulance
10. Anulomana	—Carminitive
11. Baddhagudodar	—Volvulus
12. Bhasmãgni	—Polyphãgia
13. Bhagandara	—Fistula-in-Ano
14. Chinnãntra	—Intestinal Prolapse
15. Dandakalasa or Visuchika	—Cholera
16. Gulma Roga	—Abdominal gas tumour in the abdomen
17. Grahani (Samgrahani)	—Cotitis, Chronic diarrhoea, sprue, etc.
18. Udara Roga	—Abdominal enlargements Ascitis, Diseases of Abdomen
19. Hãlimak	—Chlorosis
20. Jalodara	—Ascitis
21. Jwarãtisãr	—Diarrhoea with fever
22. Kshatodar	—Peritonitis due to perforation of the bowel
23. Kosthabheda	—Abdominal rupture
24. Kãmalã (Piliã)	—Jaundice
25. Parinãmsula	—Hunger pain, Peptic ulcer
26. Pravãhikã	—Dysentery
27. Krimi	—Intestinal worms
28. Snãyuk krimi	—Guinea worm
29. Plihodar	—Spenomegaly
30. Sula	—Colic
31. Udara Sula	—Abdominal colic
32. Trishnã (Pyãsh)	—Thirst
33. Tikshãgni	—Increased Appetite
34. Udãvarta	—Regurtitation
35. Urograha	—Hypertrophy of liver and spleen
36. Udgãra	—Blenching
37. Vriddhi roga	—Hernia
38. Vidagdha Jirna	—Biliary Dyspepsia
39. Vamana (chardi)	—Vomiting
40. Gudãbhramsa	—Prolapse rectum
41. Sanniruddha Guda	—Stricture of anus

Genito Urinary System

1. Asmari (Pathri)	—Calculus
2. Mutrãghãt	—Obstructed micturition
3. Mutrakricchra	—Dysuria, Difficulty in passing urine

(Contd)

Diseases	English Equivalents
4. Prameha	—Anomalies of urinary secretions
5. Asmarikricchra	—Irritation in passing urine due to stone
6. Mutrasukra	—Spermatarrhoea
7. Swapnadosha	—Nocturnal emission
8. Suk Roga	—Diseases related to penis
9. Andavriddhi	—Orchitis, inflammation of testis
10. Somaroga	—Polyuria
11. Sujāk, Puyameha	—Gonorrhoea
12. Madhumeha	—Diabetes mallitus
13. Vrikkavikār (vrikka sotha)	—Brights disease
14. Udakameha	—Polyuria
15. Mutrajathar	—Distended Bladder
16. Mutrātila	—Incontinence of urine
17. Upadamsa (Firanga roga)	—Syphilis, soft chancre
18. Mutrasād	—Cystitis
19. Ushavāta	—Bloody urine with irritation
20. Mutrakshaya	—Suppression of urine
21. Mutrotsarga	—Stricture of urethra
22. Vātasthilā	—Enlargement of prostate or cancer prostate
23. Vātavasti	—Retention of urine
24. Majjāmeha	—Chronic Pyuria
25. Asthilā	—Enlargement of prostate
26. Lālāmeha	—Albuminuria
27. Manjisthāmeha	—Urobilinurea
28. Raktameha	—Haematuria
29. Tuni	—Renal colic
Skin	
1. Āqantujvrana	—Traumatic wounds
2. Agnidagdha	—Burn
3. Chippa	—Nail matrix
4. Alasa	—Chilblain
5. Dadru (Dād)	—Ring worm
6. Alagi	—Phlytenules
7. Dāha	—Irritations, Burning sensation
8. Jalagardhav	—Herpes simplex
9. Jatumani	—Congenital mole
10. Kadar (Ghattā)	—Corn
11. Kshudra Roga	—Sixty types of minor skin diseases
12. Kustharoga	—Skin disease

(Contd)

Diseases	English Equivalents
13. Granthi	—Cyst
14. Likshã (Lik)	—Pedicular
15. Mahakustha (Kore)	—leprosy
16. Masak	—Mole
17. Kotha (Utkota, Udard, Sitapitta)	—Urticaria
18. Nãdivrana	—Sinus
19. Kakshã	—Auxilliary gland swelling
20. Mukhadusikã	—Aene Vulgaris
21. Masurikã	—Variola
22. Kandu	—Pruritis
23. Rakasã	—Dry eczema
24. Rãjikã	—Heat rash
25. Padminikantak	—Papilloma of skin
26. Pãshãnsgardhav	—Parotitis, Mumps
27. Palit	—Greying of hairs
28. Prameha Pidikã	—Carbuncle
29. Pãmã (Khujli)	—Itching, Scabies
30. Balmic	—Myeloma
31. Kacchapi	—Sarcoma
32. Tilakãlak	—Non-elevated mole
33. Visanakacchu	—Scrotal eczema
34. Visarpa	—Erysepelas
35. Vicharchika (Byuchi)	—Eczema
36. Vidradhi	—Abscess
37. Visphotak	—Pemphigus
38. Vrana	—Ulcer
39. Yukã	—lice
40. Vidãha	—Irritation
41. Charma Keel	—Elevated mole
42. Arunsikã	—Eczema of the scalp
43. Indralupta	—Alopecia, bald hair
44. Siro-dãrum	—Seborrhoea captis (on head)
Respiratory System	
1. Kãsha (Khãnsi)	—Cough
2. Chinna Swãsh	—Cheyne-stroke Breathing
3. Kshudra Swãsh	—Breathlessness
4. Kshaya (Tapedic)	—Phthisis
5. Hikkã	—Hiccough
6. Swãsha	—Dyspnoea

(Contd)

Diseases	English Equivalents
7. Pratisyāya (Jukhām) (Najlā)	—Catrrh
8. Rajyakshmā	—Tuberculosis
9. Tamak swash	—Asthmā
10. Swāsanak Sannipāta	—Pneumonia
11. Urastoya	—Pleurisy
12. Pārshwasul	—Dry Pleurisy
13. Kanthasosh	—Pharyngitis

Cardio-Vascular System/Blood

1. Raktaj Roga	—Blood diseases
2. Pāndu	—Anaemia
3. Hridroga	—Cardiac diseases
4. Raktavikār	—Blood disorder
5. Raktashrāv	—Bleeding
6. Slipad	—Filariasis
7. Raktapitta	—Haemorrhagic diseases

Feminine Diseases (Striroga)

1. Sweta Pradar	—Leucorrhoea
2. Yonikanda	—Vaginal prolapse
3. Stanya (Dughda) Roga	—Milk disorder
4. Stana Roga	—Diseases of the breasts
5. Kastarajah	—Dysmenorrhia
6. Asridgar (Raktaprādar)	—Menorrhagia, menorrhoea, Metrorrhagia
7. Mudhagarbha	—Mal-presentation of the foetus
8. Garbhapāt	—Miscarriage
9. Khinārtav	—Amenorrhoea

Surgical

1. Arbud	—Cancer, Tumour
2. Galaganda	—Goitre
3. Granthi Roga	—Tumor, Trophi, Cyst
4. Asthibhanga	—Fracture Bone
5. Asthivislista	—Dislocated Bones
6. Khandostha	—Hare-lip
7. Jalārbud	—Mucous cyst

(Contd)

Diseases	English Equivalents
Miscellaneous	
1. Medoroga	—Obesity
2. Sotharoga	—Dropsy
3. Gandamãlã (Kanthamãlã)	—Scrofula
4. Sosha	—Consumption
5. Medãrbud	—Lipoma
6. Alas	—Sublingual abscess
7. Upajihvã	—Renulã
Eye	
1. Abhishyanda Roga	—Conjunctivitis
2. Dristimandalagata Roga	—Lens disease
3. Krishnamandalagata Roga	—Corneal diseases
4. Sukramandalagata Roga	—Conjunctivtis
5. Netravartmagata Roga	—Diseases of Eye-lids
6. Netraroga	—Eye diseases
7. Pakshmapãt	—Blepharitis
8. Pothaki	—Trachoma
9. Vartmarbud	—Tumour
10. Siktãvartma	—Herpes ophthalmicus
11. Alaji	—Phlyctenules
12. Parvani	—Phlyctenular conjunctivitis
13. Puyãlas	—Dacrocystitis
14. Sirãjãl	—Pannus, Vascular Keratitis
15. Suklãrma	—Pterigium
16. Arjun	—Ecchymosis
17. Suklikã	—Conjunctival Opacity
18. Suddhasukra	—Corneal opacity
19. Kshatasukra	—Macula cornea
20. Sirãsanga	—Venous thrombosis in cornea
21. Motiãbind	—Cataract
22. Timir	—Glaucomatus optic atrophy
23. Rãtrandhya	—Night Blindness
24. Adhimantha Roga	—Acute orbital cellulitis
25. Vãtaviparyaya	—Neuralgia of optic nerve
26. Anyatovãta	—Neuralgia of 5th cranial nerve
27. Pãkãtyaya	—Hypopyon ulcer
28. Suskakshipãk	—Ophthalmitis
29. Adhyusita	—Ophthalmia

(Contd)

Diseases	English Equivalents
30. Hatadhimantha	—Last stage of panophthalmitis
31. Anjan Nāmikā	—Stye

E.N.T. and Dental

1. Khandostha	—Hare lip
2. Dālan (Dantasul)	—Toothache
3. Danta Vidradhi	—Alvealar abscess
4. Danta Pupputa	—Gum boil
5. Adhimāmsa	—Impacted Wisdom tooth
6. Mahāsausir	—Cancrum oris
7. Dantanādi	—Sinus in the gum
8. Tālu-pidikā	—Abscess of the palate
9. Galasundi	—Elongated uvula
10. Tālupāka	—Ulceration of the palate
11. Rohini Roga	—Diptheria, Inflammation of the throat
12. Tundikeri	—Enlarged Tonsil or Tonsillitis
13. Sāluk	—Adenoids
14. Mukhapāk	—Stomatitis
15. Putyasya	—Ozena, foul smell from mouth
16. Karnavidradhi	—Abscess of the ear
17. Puṭikarna	—Chronic otitis media
18. Karnārsha	—Polipus of the ear
19. Bādhirya	—Deafness
20. Karnanād	—Tinnitus aureum
21. Karna Pratināha	—Acute Eustachian obstruction
22. Karna Vidāri	—Laceration of Ear Pinna
23. Parilehi	—Rodent ulcer of the Pinna
24. Krimi Danta	—Dental caries
25. Shyāvadanta	—Necrosed tooth
26. Sitād	—Spongy gum
27. Adḥimāmsa	—Impacted wisdom tooth
28. Swarahara	—Laryngitis
29. Mukhapāka	—Stomatitis
30. Apinas	—Atrophic rhinitis
31. Nāsānāha	—Nasal obstruction
32. Putināsha	—Ozena
33. Nasārsha	—Polypus of nose
34. Nāsārbud	—Nasal tumour
35. Nashāsosh	—Dryness of the nose
36. Ghrānapāka	—Suppurative Rhinitis

(Contd)

Diseases	English Equivalents
37. Puyashrāv	—Nasal Puls discharge
38. Diptak	—Acute Rhinitis
39. Swarabheda	—Hoarseness of voice

Nervous System and Rheumatism

1. Apasmar (Mrigi)	—Epilipsy
2. Unmāda (Pāgalpan)	—Insanity, Mental diseases
3. Murchā (Behosi)	—Syncope
4. Bhrama	—Vertigo
5. Tandrā	—Drowsiness
6. Sannyāsa	—Apoplexy
7. Urusthabha (Ādyāvāta)	—A type of paraplegia where both thighs are affected
8. Nidrānāsh	—Insomnia
9. Madātyaya	—Alcoholism
10. Pakshāghāt	—Hemiplegia
11. Gridhrasi	—Sciatica
12. Ardít	— Facial Paralysis/Palsy
13. Sirahsul	—Headache
14. Ākshep	—Convulsions
15. Āmavāta	—Rheumatism
16. Apatantrak	—Hysteria
17. Katigraha	—Lumbago
18. Krostu-Sirshak	—Osteoarthritis
19. Manyāstambha	—Torticolis
20. Pangutā	—Paraplegia
21. Pādaharsa	—Paraesthesia of the feet
22. Viswāchi	—Monoplegia brachialis
23. Angabheda	—Pain in body
24. Angasul	—Body-part pain
25. Kampa (Kāmpnā)	—Chorea
26. Pralāp	—delerium
27. Prasupti	—Numbness of the part
28. Toda	—Needle prick feeling
29. Glāni	—Depression
30. Mad	—Intoxication
31. Jalgardhav	—Herpes simplex
32. Katisula or Trikgraha	—Lumbago, Backache
33. Khalli	—Shaking Palsy
34. Pakshāghāt	—Hemiplegia
35. Jihvastambha	—Paralysis of Tongue

(Contd)

Diseases	English Equivalents
36. Krostusirshak	—Arthritis of knee joint, synontis of knee joint, osteoarthritis
37. Avavāhuk	—Frozen shoulder
38. Addharbhedak	—Migraine, Heinicrania
39. Khanja vāta	—Spastic paraplegia

The Diseases, Disorders and Symptoms mentioned above are some of the examples. There are still many for which English equivalent cannot be made easily.

The above tabulations clearly indicate that the ancient Indian Physicians had vast experience in clinical medicine at the time when the Allopathic or western Medical Science was just beginning to develop.

4

The Interior of the Body and the Digestive Processes

According to the classical definition of Charaka, an individual may be regarded as healthy only, "when the *Tridoshas,* the Bioregulating Principles are in equilibrium, the seven *Dhatus,* the tissues of the body are normal, *Agni,* the digestive fire is functioning properly, the 13 *Srotas,* the channels and the innumerable small ones are open, and the *Malas,* the excretory products are correctly balanced."

The Āyurvedic physician relies on the keenness of his senses when he wants to appraise the leading properties of a medication. He recognizes the quality of an item of food and of a medicinal plant or drug by his sense of taste.

The effect of the different flavours (*Rasas*) on the *Tridoshas,* and consequently on the tissues, vessels and waste products, can be understood by going back to the basics of medical knowledge; armed with these, one can detect the therapeutic values of any fruit, herb, drug or article of diet.

As an example, the astringent taste (*Kasāya rasa*) has following actions:

1. Has an action on the *Tridoshas* that strengthens *Vāta* and tones down *Pitta* and *Kapha.*
2. The *Rasa*, the taste has a catabolic action on the tissues and helps to break them down, so that they are ready for absorption, etc.
3. Its action on the *Malas*, the waste products is obstructing (e.g. constipating), antidiuretic and flatulent.
4. It has only a mild action on the *Srotas*, the vessels.

The ancient āyurvedic writers described the internal functioning of the body as being carried out under four major heads:

1. The *Agni*, the fire of digestion of food products.
2. The *Dhatus*, the fundamental tissues of the body, which is holding this whole human body structure.
3. The *Srotas*, the body's vessels and ducts through which the food and nourishing materials are distributed all over the body, waste materials are expelled and the body activities are regulated.
4. The *Malas*, the waste products expelled from the body.

Through the above four, the imbalances of *Tridosha* are regulated with the help of six types of *rasas*, the tastes present in different proportion in different types of *Dravyas* (substances) and food products and to cure diseases and disorders in the body.

5. The Nourishment of the Body

1. AGNI, THE BIOLOGICAL FIRE

Agni is the biological fire of life. It is responsible for *ojas-shakti*, the life essence, vitality and glow in the body. The comprehensive function of metabolism, conceived by Āyurveda can be summed up in a single word *agni* or the fire.

The power of the fire working in the body is due to the Bioregulating Principle, *pitta*. *Pitta* is the source of fire energy, whereas *Agni* is the fire itself or the biological fire raging inside the human body. When this fire is extinguished, the life ends and the *Kaphaj* or an inactive body without any activities of *Pitta* and *Vāyu* is left behind. *Agni* controls all the metabolic activities in the body, including the process of decomposing and transforming the food together with the process of oxygenation and the replacement of the worn tissues, whereas the *Pāchaka-pitta* discharges its main function of digestion of food in the stomach and intestines.

For the maintenance of health, it is extremely important that the *agni*, the biological fire functions properly. When its function is reduced, digestion is incomplete and metabolism impaired. The resulting substances, consisting of imperfectly converted food are called *Āma* or unripe food products.

Āma

The formation of *Āma* is followed by fermentation and putrefaction in the stomach and intestines. Most endogenous diseases are called *Āmajanya*, i.e., caused by the absorption of this *Āma*.

Āma is the enemy of the *tridosha* functioning in the body and plays a significant part in upsetting their balance. It is in fact a toxic and non-useful substance moving inside the body.

In this section, *Agni* has been discussed under four major heads. They are:

1. Different types of *Agni*
2. Four states of *Agni*
3. Food and digestion
4. Production of *Vāyu*, *Pitta* and *Kapha* in the body.

(i) DIFFERENT TYPES OF AGNI

Whenever there is fire, there is combustion. The principle function of *Agni* (fire) is to digest food with the help of *Vāyu*.

The ancient philosophers have recognized four kinds of *Agnis*. They are:

(i) Terrestrial such as the ordinary fire of coal and wood
(ii) Celestial such as lightening
(iii) Abdominal that which digests food within the body and
(iv) Mineral such as *Tejas* (heat) of gold.

In Ãyurveda, we are mostly concerned with the abdominal fire, but Ãyurveda recognizes 13 kinds of *agni.*

1. *Dhãtwagnis*, the *Agni* present in the seven types of *Dhãtus* forming the body.
2. *Bhutãgnis*, which pertains to the five Building Blocks of Being, the *Panchabhutas* composing the body and
3. *Jãtharãgni*, the digestive fire which operates in the abdomen

The *Jãtharãgni,* the abdominal fire is the most important of all the above mentioned types. It digests the food.

After the digestion of the food by the internal fire, a further digestion of the five *Bhuta, e.g.,* earth, water, etc. contained in the food is affected by the respective *Bhuta-agnis* (Cf. CS. Ch. 15). The chief site of *Bhuta-agni* is the liver.

The seven *Dhãtu-agni* digest the respective *Dhãtus.* But the *dhãtus* themselves being *Panchabhautika,* contain the *Bhuta-agnis.* Quite so, but for convenience, the *Bhuta-agnis* have been called by comprehensive names with reference to the different *Dhãtus.* So, the *agni* of the *rasa-dhãtu* is called *Rasãgni,* that of blood is called *Raktãgni* and so on. The *Dhãtu-agnis* (tissue fire) present in the tissue cells bring about the metabolic process in the *sapta* (seven) *Dhãtus* of the body which are *Rasa, Rakta, Mãmsa, Meda, Asthi, Majjã* and *Sukra.*

The *Jãtharãgni* (Digestive fire) also called *Kãyãgni* is the agency responsible for digesting food in the stomach and small intestines. It is the main source of heat in the human body and converts food into a uniform homogeneous suspension called *Ãhãra Rasa.*

The *Dhãtwãgni* (digestive power in the tissues) are essential in the second stage conversion of the ingested food. For the formation of each *Dhãtu* (tissue) a separate *dhãtwãgni* is required. *Dhãtwãgnis* are dependent of *Jãtharãgni.* Due to too low or too high activity the *Dhãtwãgni* results in the malformation of the particular tissue.

The *Bhutãgni* (Power of Digestion on an elementary level) is required for the third stage of digestion. This *Agni* plays its role inside the liver and converts all foods to elementary level. The different types of chemicals, enzymes are responsible for doing this conversion job through metabolic activities.

A certain set of factors undermines the functioning of the *Agni.* One such factor is under-nourishment and another is over-nourishment. The reasons for this are:

(i) eating of heavy or completely indigestible meals, not to mention eating in excess
(ii) chronic diseases
(iii) emotional states like rage and grief
(iv) extreme climate
(v) seasonal changes
(vi) uncongenial living quarters and whatever moves in the face of socio-cultural conventions.

Susruta (SS. Su. 21) said, the heat of *pitta* is *agni.* Due to its heat property, *pitta* brings about combustion (*Dahana*) and digestion (*Pãchana*) of the food-stuff.

The *jãtharãgni* contained in the *Pãchaka Pitta* is the root cause of activities of the other *agnis* working in the body. It is the *Pãchaka Pitta* which, by its intense heat, keeps up the heat of the whole body.

Charaka said, it is due to the internal fire that life is preserved and the body is kept in good health, developing and strong. Due to this, the energy is increased and the body gets a healthy lustre. When this fire is extinguished, life becomes extinct, and when it is kept normal, a person lives a long healthy life. When *Agni* is deranged, man is afflicted by diseases. So, *Agni* has been described as the root cause of health as well as of disease (CS. Su. 15).

In *Charaka-Samhitã*, Charaka said, if there is disturbance in the region of the stomach and intestines, then even the lightest food cannot be digested and broken down. Those substances which are not broken down, turn sour and act as poisons. This unwanted material in the body acts as *ãma*. An example of it is *Ãmavãta* or the Rheumatic disorders.

(ii) FOUR STATES OF AGNI

The four states of *agni* are *Mandãgni*, *Tikshnãgni*, *Visamãgni* and *Sãṃãgni* and are distinguished from their behaviour.

(i) In *Mandãgni*, *Kapha Dosha* predominates. The excess of *kapha* slows down digestion and makes it weak and sluggish. *Manda* means slow and lazy and is the fundamental property of *kapha*.

(ii) In *Tikshnãgni*, *pitta* predominates and intensifies digestion. *Tikshna* means keen or sharp and is a fundamental property of *pitta*.

(iii) In *Visamãgni*, *Vãta* predominates and brings about great irregularity in the digestion. *Visama* means irregular and is a fundamental property of *vãta*.

(iv) *Sãma* means normal, regular and harmonious and is a term used to designate a well-balanced state of the *tridoshas*. In *Sãmãgni*, a nicely regulated working of *agni* is observed.

The general symptoms of defective metabolism are: headache, vertigo, debility, feeling of dejection, stiffness in the back and hips, reduced peristalsis (bowel movements), emaciation and poor appetite.

In addition, there are specific symptoms depending on the strength and localization of the disturbance. Typical diseases arising from the metabolic disturbances in the region of the stomach and intestines are gastro-enteritis, chronic gastritis and colitis.

In Ãyurveda, we know, *Ãmavata* (rheumatic disorders) which is due to synovitis or inflammation of the synovial membrane, is a form of arthritis. Here, *Ãma* works on *Kapha* first of all, but it is the symptoms of pain that have put the word *Vãta* in the name of the disease, which has much in common with *Vãtarakta*, a disorder with the same symptoms of gout.

Another group of disease goes under the name *Samtaprana*. Among these are, obesity and diabetes mellitus.

Bhasmaka is another form of disease where symptoms are similar to those of Thyrotoxicosis (poisoning from excessive secretion of the Thyroid gland) as the case may be.

Therapeutic Aspect

The therapy includes herbs, diet and physical and mental exercises. It mainly concentrates on the region of the stomach and intestines and the most important *Agni* operative there is known as *Jatharãgni* or *Jathara Agni*.

The detoxifying, cleansing diet might consist of a wheat breakfast, cereal plus medicinal herbs to improve digestion and also accelerate excretion. Examples of such herbs are herbal bitters or fennel, caraway, aniseed, ginger, etc.

The struggle against the 'Death Fiend' *Āma* figures in European folklore. "Death dwells in the bowels", was a household saying in ancient Europe and other western countries.

(iii) FOOD AND DIGESTION

Agni, the fire or the heat is present all over the body and in consequence, a continuous process of digestion is on in every part of the body due to *Pitta.*

Due to the constant digestion of the *Dhātus,* there is a corresponding amount of waste in the body. This waste is generally made up of food. It is the food which serves as a fuel for the body fire. So, Charaka advised to keep this fire burning by maintaining a regular and adequate supply of the fuel from the food-stuff (CS. Su. 27). Susruta said, food is the root cause of our strength and vitality (SS. Su. 1).

The spermatozoon and the ovum, which by their union produce a living being, are themselves produced ultimately from food. So, it is food which is responsible for the production and preservation of life. But unless the food is properly digested, it cannot nourish the body because, as Charaka says, undigested food is useless for the purpose of nourishment (CS. Ch. 15). The main purpose of digestion is to alter the food for the purpose of nourishment. The proper digestion of food is affected by the following (CS. Sā. 6):

(i) Heat (of the *Pāchaka-Pitta*)
(ii) *Vāyu* (*Samāna-Vāyu*)
(iii) Moisture } These two belong to Kledaka-Kapha
(iv) Viscosity }
(v) Time
(vi) Proper combination of the above five

Amongst the above agents, the heat digests. *Vāyu* pulls the food down to the stomach and brings it near the *agni* and also inflames the latter. The moisture breaks up the compactness of food-stuff and viscidity softens them. Time is required for the completion of the process of digestion. And a proper combination of all these is necessary for the production of the ultimate fruits of digestion which by nourishing different *dhātus,* maintain their normal proportion in the body (CS. Sā. 6).

Food is of four kinds:

(i) *Asita*, the main food, like rice, bread, etc.
(ii) *Pita*, the liquid food, such as water, milk, etc.
(iii) *Lidha*, the semi-solid food like curry, etc.
(iv) *Khādita*, the solid food like fruits, etc.

These various types of food (all *panchabhautika*) primarily get digested by the internal or abdominal fire, and then further by the different *bhuta-agnis*, the earthy or solid part being digested by the *prithvi-agni*, the watery or liquid part by *āpya-agni*, the fiery or the hot part by *taijasa-agni*, the airy or gaseous part by *vāyavya-agni* and the etherial part by *nābhasa-agni*. The *pārthiva* (solid) parts of the food are utilized for nourishing the muscles, bones and other solid parts of the body, the *āpya* (watery) part nourishes the chyle, lymph, blood and other liquid parts of the body and so on (CS. Ch. 15; Cf. SS. Su. 46).

When food having proper qualities of smell, taste, colour, etc., is roughly digested by the different *Bhuta-agnis*, it nourishes these respective *bhuta* qualities of the body including the seven *Dhātus*; the five *Vāyus*, *Pittas* and *Kaphas*; the *Malas* and also the five senses.

Place of Digestion of Food

Charaka said that the region between the umbilicus and the nipples is called the *āmāsaya* and it is here that the four kinds of food-stuff are digested (CS. Ch. 2). Charaka's *āmāsaya* includes the stomach as well as duodenum. Susruta's *Āmāsaya* is the stomach only.

Susruta's *Āmāsaya* is situated just above the *pittāsaya*. It is the receptacle for the four kinds of food which is moistened by virtue of the humid qualities of *kapha*, is broken up into pieces and becomes fit for easy digestion by *Agni* (SS. Su. 21).

The second part of Charaka's *āmāsaya* is the duodenum. It is called the *Pittasaya* (receptacle for *Pitta*) by Susruta; it is also called *Grahani* and *Pittadharā-kalā*. It is here that the food is completely digested by the internal fire.

Although it is the stomach and the duodenum where the digestion of food primarily takes place, the digestive process continues in the intestines also. In fact, it is the *Mahā-Srotas* or the great channel (alimentary canal) where the food is digested. The first stage of digestion takes place in the mouth and in the stomach, the second in the duodenum and the third and the final stage in the intestines.

General Process of Digestion

The *Prāna-Vāyu* first holds the food in the mouth and does not allow it to fall out. It then pushes the food down the gullet. The food thus brought into the stomach is collected here. It is then moistened and further broken up by the action of *Kledaka-Kapha* and is converted into a soft pulp which gradually goes into the duodenum. The *Sāmāna-Vāyu* situated in the umbilicus now stirs up and excites the neighbouring abdominal fire, which in due time properly digests the food (CS. Ch. 15).

In this way, the internal fire, after processing the food within the body, reduces it into a fine part, the *Rasa-Dhātu* and a waste part, the *Mala* (faeces) and *Mutra* (urine).

(iv) PRODUCTION OF VĀYU, PITTA AND KAPHA IN THE BODY

The food we eat contains six types of tastes, the *Rasas* which are sweet, sour, salt, bitter, pungent and astringent. As the food is taken in the mouth, the digestion of the six *Rasas* begins. The production of each of the three *Doshas*, the Bio-regulating Principles in the body is as follows:

Kapha

There is a rapid and constant secretion of saliva from the salivary glands. The saliva is a sort of *Kapha,* known as *Bodhaka-Kapha,* which keeps the tongue moist and softens the food. *Kapha* is predominantly sweet, so even though food contains six different rasas, its association with the sweet *Kapha* makes the first reaction sweet.

Charaka described the first stage of digestion thus, "As soon as the food is taken, the six *Rasas* (contained in the food) begin to be digested. Due to this digestion, a sweet reaction sets in, and due to their sweet condition, again is produced a foamy *Kapha* (CS. Ch. 15)". Susruta also said, "Due to the transformation of the food in the stomach into a sweet, slimy and soft substance, the sweet and cold *Kapha* is produced there" (SS. Su. 21).

We therefore, see that over and above, the permanent *Kapha* of the body, a fresh *Kapha* is produced in the stomach during the digestion of food.

Quantity of food to be ingested

Charaka has stated that a portion of the *Kuksi* (stomach) should be kept empty for free movements of *Vãyu, Pitta* and *Kapha,* so that they thoroughly combine with the food for proper digestion (cf. CS. Vi. 2). Charaka says that, while taking our meals, we should imagine the space of the stomach divided into three parts—one to be filled up with solid food, second with liquid food and the third left empty for proper mixing of the food.

The elder *Vãgbhata* divided the space of stomach into four parts—two parts to be filled with solid food, one part with liquid food and the remaining portion to be kept empty for *Vãyu, Pitta,* and *Kapha* (AH. Su. 10).

Pitta

The second stage of digestion has been described by Charaka thus, "at the time when the half-digested food leaves the stomach to drop into the intestines, a clear liquid *Pitta* is evolved in the duodenum, out of the acidic condition of the partly digested food" (CS. Ch. 15).

The half-digested food or chyme comes gradually into the *Grahani,* the duodenum which is the seat of *Agni,* the digestive fire. Charaka said, "the *Grahani* (that which receives) so called because it receives the food, is situated above the umbilicus and is the seat of *agni.* It holds the partially digested food and sends the digested food downwards. When this *agni* is weak, the food, even in the undigested or ill-digested condition, passes out as such into the intestines" (CS. Ch. 15).

The *Grahani-Nãdi* (the receiving tube), situated as if at the door of the *pakvãsaya,* acts as a bolt and thus checks any sudden on-flow of food from the duodenum to the intestines (AH. Sã. 3).

Susruta mentioned *Grahani-Nãdi* (channel) as the *pittadharã kalã,* "that which holds the *pitta* and is situated between the *Pakvãsaya* and *Ãmãsaya* is called *Grahani*" (SS. Ut. 4). The *pittadharã-kalã* holds food which passes from the stomach for the purpose of going to the *pakvãsaya* (SS. Sã. 4). But for the holding power of the *grahani* and bolt-like arrangement, the food would have gone out to the intestines too quickly for the *Pãchaka-pitta* in the duodenum to digest properly.

The elder Vagbhata described this very clearly. He said, "the *Pittadharãkalã* is situated between *Pakvãsaya* and the *Ãmãsaya.* Being the seat of the internal fire, it holds by force the food

that comes out of the stomach on its way to the intestines, dries and digests the food by means of the heat of *Pitta* and ejects the digested food. When it becomes weak by being affected by any *Dosha,* the undigested food as such passes out of it. So, because it holds food, it is called *Grahani*" (AH. Sã. 5).

The *Grahani* is the special seat of *Pitta* which has the character of a strong acid. Considering this and also the fact that heat is evolved out of the intense digestive processes going on in the duodenum, when food comes into it, a fine liquid substance called *Pitta* is produced.

Vãyu

By the action of *Pitta* in the duodenum, the digested food is converted into two parts, i.e., a fine and a coarse part. The coarse part is driven slowly into the intestines (by the action of *Samãna-vãyu*) where the third and the last stage of digestion takes place.

Charaka said, "When at last, the digested food comes into the intestines, it begins to be dried up by *Agni* and is converted into a compact solid mass. During this process, a bitter and astringent reaction sets in; due to this reaction, *Vãyu* is generated" (CS. Ch. 9).

Production of Rasa

From the watery portion of food is produced urine and the hard portion is turned into faeces and when the food is completely and properly digested, an extremely fine substance is produced. This is called *Rasa* and its place is in the heart (cf. SS. Su. 14).

The digestive process begins in the stomach and is practically completed in the duodenum. When the food reaches the first part of *Ãmãsaya* (stomach), the digestion begins. Later, when the food goes to the second part of the *Ãmãsaya,* i.e., *Pachyamãnãsaya* (the place where the food is being digested, i.e., the duodenum, which is also a part of *Ãmãsaya* according to Charaka), it gets completely digested. After this the digested food (after conversion into the essential part *Rasa* and separated from the waste parts (viz., urine and faeces) goes all over the body through the *Dhamani*'s (tubular vessels carrying chyle, blood, etc.).

During the first stage of digestion in the stomach, the food is thoroughly mixed with the *kledaka kapha.* When the semi-liquid food comes into the duodenum, the *Pãchaka Pitta* combines with it. *Vãyu* is all along present. So, the substance that is being digested by *agni* in the *Grahani* is food in association with *Vãyu, Pitta* and *Kapha.* When this substance is completely digested, we get an essential part, the rasa and a waste part—the urine and faeces. So, as soon as the food (having six *Rasas,* the tastes) comes in contact with the doshas in the alimentary canal, the *Rasas* lose their character as such and become a *Vipãka* or a combination of *Doshas* and *Rasas.* Therefore, the food *Rasa,* which comes out of *Vipãka* may be regarded as a 'loaded' form *Tridosha.* In the urine and faeces also, there is an admixture of *Vãyu, Pitta* and *Kapha* principles in addition to the waste matter from food.

If at the time of food consumption, a particular *rasa* (taste) is taken in excess, then the *Dosha* which is of a similar character to that *Rasa* (e.g., *kapha* corresponding to the sweet taste) is greatly increased. Charaka said, "when the *Rasas* and *Doshas* combine, that *Rasa* which has similar properties to a particular *Dosha,* augments that *Dosha*" (CS. Vi. 1).

Circulation of Rasa (Chyle)

Charaka has mentioned that the essential and waste parts of the food become separated in the *Grahani* (CS. Vi. 2). Susruta also is of the same opinion. While describing *Dhamanis,* he said, the *dhamanis* of the lower extremity carry *Vāta,* urine, faeces, semen, menstrual blood, etc. The food *Rasa* is produced out of complete digestion of food in the *Pittāsaya* and this is separated by *Agni.* The *Dhamanis* emerging from the *Pittāsaya* carry the food *Rasa* to different parts of the lower extremities and then to the *Dhamanis* going upwards and laterally. Thus, they indirectly serve to supply the heart, the seat of *Rasa-Dhātu,* with its quota of healthy *Rasa.* They also discharge the urine, faeces and sweat (SS. Sā. 9). Food-*Rasa* is thus instrumental (during all periods of life), in growth and development (in childhood), preservation (of the fully developed body) and maintenance (during the natural waste in old age) of the body (SS. Su. 14). It is for this reason that Susruta said, "the body is produced from food *Rasa*" (SS. Su. 14).

2. DHĀTU (TISSUES)

The *Dhātus* of the body are the basic or fundamental tissues of the body. They are seven in number. They are *Rasa* (chyle), *Rakta* (blood), *Māmsa* (muscle), *Meda* (fat), *Asthi* (bone), *Majjā* (marrow) and *Sukra* (semen).

When the food *Rasa,* i.e., the fine *rasa* produced out of the thorough digestion of food is separated from the excretory matter, it goes upward to the heart and on its way there, it begins to be digested by the different *Bhuta-agni* contained in it. In the heart, the food *Rasa* supplements the permanent *Rasa Dhātu* there. Susruta said, "From the *Rasa,* blood is produced, from blood is produced flesh and then from flesh is produced fat, from fat the bones and then from the bones is produced marrow and finally from marrow is generated semen" (SS. Su. 14 also cf. CS. Ch. 15). In this way, the various substances are converted into one another and the unstable material is separated from the refuge.

The *Dhātus* are formed from and nourished by *Āhara rasa,* the so-called chyle which is a milky juice found in the stomach and in the lymph vessels of the intestines. Later on the progressive changes occurring between the *Dhātus* or the tissues are the outcome of the complex metabolic processes. Āyurvedic physicians have traced these subtle physiological relationships on the basis of scientific knowledge gathered over a span of thousands of years.

Rasa Dhātu

The most predominant *Bhuta* or the element (or Building Blocks) of *Rasadhātu* is *Ap* (water). *Rasadhātu* corresponds to lymph, blood plasma, parenchymatous fluids and is responsible for converting solids into fluids and distributing them throughout the body.

The digestion of the *Rasadhātu* takes place in the heart with its own *Agni,* the *Rasa Agni* or *Rasāgni.* As a result of the digestion, the above *rasa* is separated into three parts. They are, a waste part, a fine part and then a still finer part. The clear fine part gets mixed with the permanent *Rasa Dhātu* and is driven all over the body by *Vyāna Vāyu* through the *Dhamanis* (vessels). The remaining finest part goes to the liver and spleen which are the principal seats of blood. So, the finest essence of *Rasa Dhātu* is reduced by *Ranjaka Pitta* and is thereby transformed

into blood (CS. Ch. 15; SS. Su. 14). The function of *Ranjaka Pitta* in liver and spleen imparts the characteristic red pigment to *Rasa* due to *Ranjaka Agni* (SS. Su. 21). However, this change of colour from the white of *Rasa* to red blood is gradual and takes place in stages.

Susruta described the normal functions of the *Dhātus* (SS. Su. 15; cf. AS. Su. 19; AH. Su. 11). *Rasa Dhātu* has a soothing effect upon the whole body and nourishes especially, the blood.

So we can summarise the whole process in this way:

(i) The ingested food is processed into a form that is acceptable to the digestive system.
(ii) The chyle appears as an intermediate substance called *Āhara Rasa*, which is neither food nor body tissue.
(iii) This *Āhara Rasa* with the help of *Agni* gets changed into *Rasa Dhātu*. This *agni* is the powerful digestive fire principle. So, *Rasa Dhātu* is a product of the process of digestion and circulates throughout the body with the help of *Vāta* to nourish every cell of the body.
(iv) *Rasa dhātu* in the above way supplies the other six *Dhātus* with its finer essence.
(v) *Rasa dhātu* in a normal healthy state gives a healthy, smooth and glistening skin. So the quality of *Rasa dhātu* can be judged from the condition of the skin.
(vi) *Rasa dhātu* is responsible for definite mental and physical glow in the body, it tones up the vital force, gives good health, joy and a lively mental attitude. These are signs of a healthy *Rasa dhātu.*
(vii) When *Rasa dhātu* is thrown out of balance, it increases the flow of saliva, causes nausea and symptoms of increased *Kapha.*
(viii) The reduced *Rasa dhātu* in the body gives rise to symptoms like rough skin, pains, thirst, debility, cardiac palpitation, hypersensitivity to noise, deafness and oppressed feeling. The slightest effort gives rise to strain.

Rakta Dhātu

The main element (*Bhuta*) in *Rakta dhātu* is *Tejas* or fire. *Rakta dhātu* corresponds to the constituents of blood. Its main function is to preserve life and nourish the whole body. It keeps up the activities of life, adds a lustrous glow to the complexion and nourishes the muscular tissue. According to Vāgbhata (AS. Su. 36; AH. Su. 27), blood is sweet and a little salty in taste.

When the food *Rasa*, after being digested by its own *Agni* is converted into the next *Dhātu*, it is its *Tejas* part that substantially helps to form the blood. In the liver-spleen receptacles of blood, as well as in all blood vessels, the blood is always being digested by its own *Agni*, the *Rakta Agni* or *Raktāgni*. As learnt earlier, ultimately there are three parts, i.e., a waste part, a fine part and lastly a still more fine essential part. The fine clear part supplements the *Rakta dhātu* of the body. The clear-most essential part enters the very fine blood vessels and capillaries within the muscles and stays there. As a result of digestion during this period, the above clear-most part of blood is converted into flesh in combination with *Vāyu* and the heat of *Agni* and thereby gets mixed-up with the permanent *Māmsa dhātu* of the body. *Vāyu* and *Agni* have the power of drying up a thing. So in association with these two, the liquid blood is converted into the comparatively solid flesh. It is the earthy (*Prithvi*) part of the food—*Rasa* that subsequently helps in the formation of the *Māmsa dhātu*.

Today it is a common practice to test the haemoglobin of the patient's blood, but the ancient method of physical examination still holds good. It has been a practice to assess a patient's status looking at the tongue, nails, conjunctiva of the eye, oral cavity, soles of hand and feet, genitals, etc. All of these should be reddish and well-shaped for a healthy person. Face should have a

healthy glow and mentally one should be cheerful and alive with a general feeling of well-being and sharp intelligence.

A red colouration of the skin, eye and urine are obvious symptoms of increased *Rakta dhātu*. The swollen blood vessels give rise to certain typical diseases like spleen disorders, gout, abscesses, jaundice, skin complaints, haemorrhages, gastric problems, coma, etc.

The reduced *Rakta dhātu* may be recognized by the feeling of bloodlessness; anaemic look; rough, dry and cracked skin; a craving for cold and sour food is typical.

Māmsa Dhātu

Māmsa (muscle) covers the bone and contributes to the strength of the body and nourishes *Meda* (fat). The *Māmsa dhātu* is obtained from *Rasa* and *Rakta* and its most important function is to maintain *Meda dhātu*. The element (*bhuta*) prevailing on *Māmsa dhātu* is *prithvi* or earth.

The food *Rasa* after being transformed into blood and then into flesh, stays in the muscular tissues. As a result of digestion by *Māmsāgni* it is divided into three parts. The finer part augments the permanent *Māmsa dhātu* of the body. The finer essential part enters the very fine muscular tissues in touch with fat. Here, as a result of the above digestion, it combines with *Vāyu* and *Agni* under a substratum of *slesman* (water quality) and is converted into the white substance, the *Medas* or the fat. The earthy and watery parts of the food *rasa* specially help to form the fat.

The healthy psychological signs of *Māmsa dhātu* are patience, stability, openness and a feeling of strength and vitality.

In a state of increased *Māmsa dhātu*, an increase in the fatty tissue and a feeling of heaviness around the abdomen, thighs, calves, cheeks, penis and swelling around neck and small-sized tumors are observed.

Māmsa dhātu when reduced shows itself in reduction of fatty and muscular tissues around neck, abdomen, upper thighs, calves, armpits, breasts, cheek and around the eyes. It is common to have pinching pains and sore joints.

Meda Dhātu

Meda dhātu cools the body. It is the cause of perspiration and oiliness of the body and contributes towards firmness and nourishment of bones. Its leading elements (*Bhutas*) are *ap* or water and *prithvi* or earth. *Meda dhātu* corresponds to the fatty tissue in the human body and maintains the human body and forms *Asthi dhātu*.

The food *rasa* is transformed into *Medas*, stays in that *Dhātu* and after being digested by the *Meda Agni* is divided into three parts. The fine part supplements the permanent *Meda Dhātu* of the body; and by the action of the above digestive process, the earthy, airy and fiery parts of the food *Rasa* are combined together under a substratum of *Slesman*. As a result of this, the finer essential part of fat is converted into a hard mass, the *Asthi* (bone). It is the *Vāyu* which produces pores within the bones (cf. CS. Ch. 15).

Meda lubricates the body and gives a greasy appearance to the skin. It is apparent from the general elasticity of the body that the elements (*Bhutas*) of the *Meda Dhātu* are in good condition. Also the joints are supple, skin looks oily and the voice sounds smooth. Mental attitude is indicated from the spirit of friendliness to others, energetic and healthy and frankness.

In increased *Meda Dhātu*, the symptoms are a general increase in the body weight, specially in the middle and a rounding out of the breasts, etc.

The reduced fatty tissue brings joint pains, emaciation, debility, atrophy of the abdominal muscles, dryness of the eyes, spleenic tumors, etc.

Asthi Dhātu

Asthi dhātu supports the body and nourishes the marrow. It is made up of the basic elements (*Bhutas*) *prithvi* and *Vāyu* or earth and air; so it is strong and porus and would have been very heavy if it had not been full of hollows.

A normal healthy condition of the *Asthi Dhātu* shows itself in strong, prominent knuckles and joints, strong bones, teeth and nails and a firm chin and bony skull.

The food *Rasa*, thus transformed into *Asthi* (bone), remains in their *Dhātu* and after being digested by the *Asthi Agni*, it is divided into three parts. Of these, the fine part supplements the permanent *Asthi Dhātu* of the body and the finer essential part, after being converted into *Majjā* or marrow by the action of the digestive process, is driven by *Vyāna Vāyu* into the pores of the bones where it replenishes the existing marrow.

A healthy *Asthi Dhātu*, psychologically gives rise to enthusiasm, activity and the ability to face great hardships.

An increased *Asthi Dhātu* gives rise to enlarged teeth and bone, whereas in reduced *Asthi Dhātu*, the nails are brittle, hair falls out, the teeth have a tendency to decay and the joints and bones are painful, weak and raw.

The bony tissue higher up the chain, supplies in turn to the bone marrow, the *Majjā Dhātu*.

Majjā Dhātu

Majjā dhātu is made up of the basic element ap (*Jala*) or water. In its healthy state, it creates a general impression of flexibility and softness in both voice and physique. It contributes towards viscidity and strength of the body, fills the cavities of the bones and nourishes semen.

The food *Rasa* transformed into marrow, stays in that *Dhātu* and being digested by the *Majjā Agni*, the permanent *Majjā Dhātu* of the body and the finer essential part is converted into semen.

Majjā dhātu in an increased proportion shows itself in chronic ulcers around bones and a feeling of heaviness. Reduced *Majjā dhātu* is observed in repeated attacks arising from increased *Vāta* and due to reduction in the quantity of *Sukra Dhātu*. Pains in the bones and joints, a sensation of giddiness and a feeling that the bones are soft and too light, are typical symptoms.

Sukra Dhātu

The basic element of *Sukra Dhātu* is *ap* (or *Jala*), water. It is named as 'seed' in old writings. The food *Rasa* transformed into *Sukra*, is further digested by *Sukra Agni*. The semen which is generated as a result of the repeated digestion of *Rasa*, is again digested by its own *Agni*, produces no waste part. It is divided into two parts only, instead of three. The fine part supplements the permanent *Sukra Dhātu* of the body and the finer essential part is called *Ojas*. As the seat of *Sukra* is throughout the body, this *Ojas* is also produced in every part of the body, but collects only in the heart.

Thus, it is the same food *Rasa* which, while coming out of the heart, is converted into the successive *Dhãtus* in every five days and 36 minutes, though the total time taken by the *Rasa* to be converted into semen is one complete month; for the females, instead of semen, the *Ãrtava* (menstrual blood) is generated (SS. Su. 14).

This is the general rule. But the semen produces the *Virya,* a substance like milk, butter, etc. nourishes the *Dhãtus* more quickly because of their inherent power. Some are of the opinion that these substances are turned into semen in six days and nights, i.e., on the seventh day after taking meal (CS. Ch. 15).

It may be remembered that the *Rasa* will ordinarily, be turned into semen in one month provided that the digestive power is normal and the different *srotas* or channels of the body are not blocked in any way. Otherwise, the *rasa* would take more time to be turned into semen.

Sukra dhãtu in a healthy condition manifests itself in strong sexual desires, a greater sensitivity and fertility. A person whose *sukra* is functioning well is charming, cheerful and bright in outlook. His teeth are well-formed and strong. He is healthy, strong and happy.

Pure *sukra* has been described by Susruta (SS. Sã. 2; cf. AS. Sã. 2; AH. Su. 1) as liquid, sweet and viscid. Vãgbhata II said that semen is dense and white. The older Vãgbhata said that it is '*Bahala*', i.e., not very dense.

Sukra dhãtu when exaggerated, makes a person oversexed and increases his seminal flow. There is increased menstruation in women, breasts swell as lactation starts and nipples may feel stiff and painful.

Sukra dhãtu when reduced shows symptoms of anaemia, dry mouth, exhaustion, etc. In males, semen ejaculation may be very less or stained with blood, ejaculation of semen may be of short duration or absent, impotence, penis is tender and testicles painful. In women, the menstruation is irregular or flow less than normal, breasts small and little and no milk produced.

Tridoshas are also regarded as *Dhãtus* when in balance and they are treated as *Doshas* (or faults) only when they are in disharmony or in cases of diseases.

Ojas

Ojas is considered as essence after the formation of the seven types of *ḍhãtus* of the body and has properties similar to the *Kapha* principle. *Ojas dhãtu* is the essence of all *Dhãtus* and responsible for lending vitality and natural radiance to the body.

The finer essential part of *Sukra* is called the *Ojas,* which like *Sukra,* is produced in every part of the body and collects especially in the heart.

In Ãyurveda, *Ojas* is responsible for vitality in the body and responsible for giving energy to the body to make a person active. So far, *Ojas* in Ãyurveda is a controversial substance and has not been identified in modern terms.

Upa Dhãtu

Upa dhãtus are secondary *Dhãtus,* in addition to the seven *Dhãtus* in the body, which are responsible for maintenance of certain organs and regions of the body. They are tendons, ligaments, skin layers, blood vessels, nerves and nerve cells, menstrual blood, breast milk, etc.

Charaka enumerated that, one of the essential parts of the first four *Dhãtus* is produced as by-product or as sub-*dhãtu* (CS. Ch. 15) as: At the time of digestion of the *Rasa dhãtu,* one of its

essential parts generates mother's milk and menstrual blood in females. Out of the essential part of *Rakta dhātu* or blood are generated in addition to flesh, the *Kandarās* (thick ligaments and tendons) and *Sirās* (vessels). From *Māmsa dhātu* or flesh is produced *Vasā* (fatty exudate) and the six layers of skin and from the fourth *Dhātu-medas* are produced the *Snāyus* or the ligaments and fascia.

Although these are produced from *Dhātus*, yet they are themselves barren, that is to say, they do not produce any other *Dhātu*. They are called *Upa dhātus* simply because they are by-products of *Dhātus*.

It may be noted, that both Charaka and Bhoja have included rajah or menstrual blood as *Upa dhātu*. However, Susruta mentioned *Ārtava* which is generated as the seventh *Dhātu* (tissue) of the body. So, this *Ārtava* cannot be taken as menstrual blood. There is a difference of opinion amongst the ancient authorities regarding the existence of semen in females. Susruta maintains that females also have semen (SS. Sā. 2), which can be taken as ovum and its cyclic functions in the female body.

3. MALAS

The *Malas* are a result of the various stages of metabolism. The main elimination products are *Purisha* (faeces), *Mutra* (urine) and *Sweda* (sweat). The other forms are discarded dead cells like the skin scales, the nails and the hair. It is very essential to eliminate the three *Malas* from the body and any disruption in their elimination can result in a very serious condition in the body. The main element (*Bhuta*) in the faeces is *Prithvi*, the earth. Any imbalance in the Bioregulating Principles, the *Tridoshas* (*Vāyu, Pitta* and *Kapha*) will give rise to an unhealthy condition to the faeces and will reveal itself in typical symptoms which are as follows:

(a) Faeces (*Purisha*)
   - (i) Increased faeces (*Purisha*) creates gurgling sounds in the abdomen, excess wind or flatulence, pain and a heavy feeling in the abdomen.
   - (ii) Reduced faeces (*Purisha*) gives rise to violent agitation of *Vāta*, movement of wind in the abdomen upward and downward, associated with noises in the abdomen, chest pain, and throbbing or spasmodic pain in the abdomen.

(b) Urine (*Mutra*)
   The Building Blocks or the elements of urine are water (*Jala* or *Ap*) and fire (*Tejas* or *Agni*).
   - (i) Increased urine in pathological state gives signs of increased desire to pass water along with painful enlargement of the bladder.
   - (ii) The reduced urine in pathological or diseased state may give rise to toxic symptoms in the body.

(c) Sweat (*Sweda*)
   Water (*ap*) is the basic element of *Sweda* or sweat.
   - (i) when sweat is increased, it results in increased perspiration, itching and foul smell from the body.
   - (ii) reduced sweat brings about an inability to perspire and has a tendency to lessen the sensibility of the sense of touch, hair loss and cracked skin.

So, we infer that any digestive process must yield a *mala* or a waste part. That is why during the digestion of each *Dhātu*, a dross part is produced along with an essential part. The only exception is in the case of the seventh and the last *Dhātu*, the *Sukra* (semen).

The respective *malas* or the wastes of the six *dhātus* enumerated by Charaka and Susruta (CS. Ch. 15; SS. Su. 46) are as follows:

Table 4.1

S.No.	Dhātu	Mala
1.	Chyle (Rasa)	*Kapha* (mucous). Vagbhata adds *lasikā* (AH. Sā. 6)
2.	Blood (Rakta)	*Pitta* (bile)
3.	Flesh (Māmsa)	Waste products at the various apertures or openings of the body like dirt of the ears, eyes, nostrils, of pores of the body and that of the genital organs
4.	Fat (Meda)	Sweat
5.	Bone (Asthi)	Hair and nails
6.	Marrow (Majjā)	Waste matter in the eyes and oiliness of the skin
7.	Semen (Sukra)	No mala (waste product)

Vāgbhata mentioned *ojas* as the *mala* of *sukra* (semen) (AH. Sā. 3; also AS. Sā. 6). This is surprising, because everywhere *ojas* has been described as the finest essence of all the *Dhātus*. The elder Vāgbhata first said, that because of the extreme purity of the latter *Dhātu*, it has no *mala* (AS. Sā. 6), but curiously enough, at the end of the same chapter, we find an identical verse as in *Astānga-Hridaya Samhitā*.

Sārangadhara also enumerated the respective *malas* of the seven *Dhātus* (SāS. PK. 5), which are quite different from the above.

Dosha, *Dhātu* and *Malas* support the body, by being mutually related to one another. When they are present in the body in normal proportions, then each of them is conducive to the general welfare of the body. But, when, for example, a *Dosha* becomes less than or is in excess to its normal quantity or becomes deranged, it becomes harmful. Similarly, when a *Mala* is produced in an abnormal quantity, it becomes harmful and tends to go out of the body and is fully thrown off. The fully digested *Dhātu* (e.g. a dead cell) becomes '*Mala bhuta*', i.e., is turned into *Mala* (CS. Sā. 6).

In connection with the digestive process for which Charaka has used the term *kitta*, however the term *Mala* is more common. *Kitta* may be considered as *Asāra* or non-essential part after the digestion of the food other than *Sāra* (essential part) and nourishes the sweat, urine, faeces, *Vāta*, *Pitta*, *Slesman*, hair, nails, etc. It is a very useful part of the body. But when it is produced in an abnormal quantity, it becomes a *Mala-bhuta*, that is, *Mala* proper.

4. SROTAS (CHANNELS)

Our body is full of large and small *Srotas* (channels or transport routes) which sustain life. Through these the atmospheric air surrounding us is inhaled and exhaled; food is ingested,

digested and nutrients transported and blood circulated throughout the body. The other channels or ducts of the body are trachea, oesophagus, stomach, intestines, arteries, veins, capillaries, etc. The minutest vessels and pores also belong to this group, if they are in an intact position they allow continuous circulation in the body. It can be said that *Srotas* are concerned with the vegetative functions of the body as we find in modern physiology. These *Srotas* (channels) in Āyurveda are distributed into 13 different categories as enumerated in Table 4.2.

Table 4.2

S.No.	*Srotas*	*Place of Origin*	*Channels*
1.	Prānavaha	Heart, Thoracic cavity and Abdominal cavity	Leading the outside air into the blood stream
2.	Udakavaha	Palate and Pancreas	Transporting water including serum and lymph
3.	Annavaha	Stomach	Transporting system for solid and liquid nutrients
4.	Rasavaha	Heart and Blood vessels	Conducting system for plasma and chyle
5.	Raktavaha	Liver and spleen	In which haemoglobin in particular arises and circulates
6.	Māmsavaha	Ligaments and skin	Transport routes along with the building materials for muscle tissue are carried out
7.	Medavaha	Kidenys, Adipose tissue in the Abdomen	In which the building materials for fatty tissues are carried out
8.	Asthivaha	Bony tissue and adipose (fatty) tissue	Transport routes for the building materials of bony tissue
9.	Majjāvaha	Bones and Joints	Tributaries for the building materials of marrow
10.	Sukravaha	Teshcles and ovaries	Tributaries for the building materials of the gonads, as well as the ducts for sperm and ova
11.	Mutravaha	Kidneys and Urinary Bladder	Drainage system for urine
12.	Purisavaha	Colon and Rectum	Transport route for the removal of faeces
13.	Swedavaha	Adipose tissue and Hair follicles	Channels for perspiration (Sudoriferous ducts)

Āyurvedic literature have specified certain places of origin for each type of channel (*Srotas*). Symptoms of disease are observed at one or another of these places when the disruption in circulation of a given system takes place. These are mentioned in Table 4.2 above.

5.THE NOURISHMENT OF THE BODY

The *Doshas*, *Dhātus* and *Malas* are the roots of the body. Together they support the body. A constant digestion of these substances is going on with a corresponding elimination of waste from the body. The waste primarily made up by food.

METHOD OF NOURISHMENT

As regular meals preserve the general equilibrium of the body, so do the *Dhātus* each serving as food for the next succeeding *Dhātu*, and thus maintaining the normal condition of the latter. As the food brings about the growth in the body, so does one *Dhātu* cause the growth of another *Dhātu* (cf. AS. Su. 1). Thus the *Rasa dhātu*, derived from the digested food serves as a food for blood, blood becomes food for flesh and so on; and in this way the normal condition of the body is maintained (CS. Su. 28). The nourishment of the *Doshas, Dhātus, Upa dhātus* and the *Malas* are discussed as follows.

NOURISHMENT OF THE DOSHAS

1. *Vāyu* is nourished in two ways:
   (i) The air we inhale mixes up directly with the *Prāna* and *Udāna Vāyus* within the body and then nourishes all the other *Vāyus* of the body. The *uras* here means lungs and has been mentioned as the seat of both *Prāna* and *Udāna Vāyus*.
   (ii) The *vāyu* that is generated in the *Pakvāsaya* during the last stage of digestion also nourishes the body *Vāyus*. This *Vāyu* may be called *Mala vāyu* because it is produced in association with the *Mala* of food.
2. *Pitta* is also nourished in two ways:
   (i) The fresh, clear *Pitta* that is generated in the duodenum during the second stage of digestion directly nourishes the *Pāchaka pitta*. It is the *Pāchaka pitta* again which from its own seat at the duodenum nourishes all other *Pittas* by its own heat.
   (ii) *Pitta* is produced as *mala* during the formation of blood. Whenever this *Mala Pitta* is produced, it nourishes the original *Pitta* by its own heat.
3. *Kapha* is similarly nourished in two ways, i.e., by a fresh pure *Kapha* and by a *Mala Kapha*.
   (i) The foamy *kapha* that is produced in the stomach during the first stage of digestion directly nourishes the *kledaka kapha*. The latter by its own special humid properties, then nourishes all other *kaphas* of the body.
   (ii) *Kapha* is produced as a *mala* during the digestion of *rasa dhātu*. As *rasa* is circulating throughout the body, this *mala kapha* also is being generated in every part of the body and nourishes the original *kapha* everywhere.

NOURISHMENT OF DHĀTU

The general hypothesis of the nourishment of the *Dhātus* in Ayurveda is shown in Table 4.3.

Table 4.3 **Nourishment of Dhātu**

S.No.	*Dhatu*	*Is Nourished by*
1.	Rasa	Food rasa
2.	Rakta	The most clearest essential part of rasa dhātu

(Contd)

S. No.	Dhatu	Is Nouirshed by
3.	Māmsa	The most clearest essential part of rakta dhātu
4.	Medas	The most clearest essential part of māmsa dhātu
5.	Asthi	The most clearest essential part of medas dhātu
6.	Majjā	The most clearest essential part of asthi dhātu
7.	Sukra	The most clearest essential part of majjā dhātu
8.	Ojas	The most clearest essential part of sukra dhātu

There are also three more hypothesis of academic interest only may be noted are as follows:

The Milk and Curd Analogy

According to this concept, the whole *Rasa dhātu* is converted into blood by the process of digestion, which is further converted into flesh as a whole and so on, just like a quantity of milk which is converted into curd fully (and not by parts) and the curd is turned into butter as a whole and similarly the butter into ghee.

The Irrigation-channel System

According to this concept, it is *Rasa* which goes to the *Rakta dhātu* and being associated with the latter nourishes it by qualities similar to blood. After supplying the blood with its necessary requirements, the *Rasa* goes to the *Māmsa dhātu* and in the same way nourishes it. In this way, just as a stream of water floods successive fields, one after another through the intervening channels, the *Rasa* goes to the successive *Dhātus* and nourishes them in turn.

The Pigeons-in-the-Snare Analogy

According to this hypothesis, the food *Rasa* goes to the different *Dhātus* through different channels and nourishes them with its different nourishing qualities. Just as pigeons from different places, following different paths, fall into a snare at different times, similarly the food *Rasa* reaches the *Dhātus* through different channels at different times. As the *Rasa dhātu* is the nearest, the food *Rasa* nourishes it first. The blood, flesh and other *Dhātus* being situated deeper and deeper into the body, the food *Rasa* has to go via longer and longer paths to these *Dhātus*, thus taking longer and still longer time, nourishing *Sukra dhātu* last of all.

Of the above three views, the second one is more acceptable. It has preference of Chakrapāni (cf. CS. Ch. 15) and of Sivadāsha. According to Chakrapāni, the third view is difficult to accept.

NOURISHMENT OF THE *UPA DHĀTUS*

Table 4.4 Shows how the *Upa-Dhātus* are Nourished

S.No.	*Upa-Dhātus*	*Are nourished by the essential part of*
1.	Kandarās and Sirās	Rakta (Blood)
2.	Charma (skin) and Vasā (fat)	Māmsas (flesh)
3.	Snāyus	Medas (fat)
4.	Menstrual blood	Food rasa

In case of a pregnant woman, a portion of the *Rasa dhātu* nourishes the blood in the usual course, a second portion nourishes the foetus and a third one produces milk in the breasts.

Susruta said regarding the production of mother's milk that when the sweet essential part of *Rasa,* which is itself produced on digestion of food, comes from all parts of the body and accumulates in the breasts, it is called mother's milk. In the case of nullipara, the outlets of the milk carrying *Dhamanis* or ducts remain closed and in consequence there is no production of breast milk. It is only when a woman is pregnant that these outlets open naturally and the ducts also expand. Susruta drew an analogy between the semen and the breast milk (SS. Ni. 10). As in the case of semen, although the milk is produced throughout the body, yet it remains invisible and cannot be seen when any part of the body is cut open. As the semen oozes out at the sight, thought or touch of a beloved, so does the milk secreted in the breast of the mother at the sight, touch or recollection of her dear child or when she takes the child on her lap.

As a result of the digestive process, besides nourishing the above *Dhātus* and *Upa dhātus,* the *Panchabhautika* of food *Rasa* also nourish the five senses, which according to Āyurveda originate from the five *Bhutas.* So, it is observed that the food *Rasa* is at the root of all these nourishments.

THE NOURISHMENT OF THE MALAS

Table 4.5

S.No.	*Malas*	*Is Nourished by*
1.	Urine (Mutra)	the non-viscid, liquid part of food Kitta (waste product of food)
2.	Faeces (Purisha)	the non-liquid portion of the food Kitta
3.	Sweat (Sweda)	(a) nourished by the viscid, liquid part of food Kitta (b) by the mala of medas
4.	Lasikā	nourished by mala of rasa

(Contd)

S.No.	Malas	Is Nourished by
5.	Waste matter in the eyes	(a) mala of māmsa (b) mala of majjā
6.	Waste matter in ears, pores and genital organs	mala of māmsa
7.	Hair and nails	mala of asthi
8.	Grease of the skin	mala of majjā

As is evident from Table 4.5, the *Dhātus* which are called *Prasādas* and the *Dhātus* which are called *Malas* are collectively nourished respectively by the *Rasa* of the *Malas*. Thus the normal proportions of the *Dhātus*, proper for the particular age of the subject are preserved and the equilibrium of all the *Dhātus* is maintained (cf. CS. Su. 28).

The normal measures of the different liquid and semi-liquid parts of the body have been mentioned by Charaka (CS. Sā. 7) and Vāgbhata (AS. Sā. 5 and AH. Sā. 3). It was Vāgbhata who added the two *Upa dhātus*, viz., breast milk and menstrual blood to the list of Charaka. *Vāyu* has no compact form, so cannot be measured. According to Susruta, the *Dhātus* fully developed at the age of 25 years.

As the perfume in a flower bud lies latent in its early stage of development, but manifests only with the full bloom of the flower, similarly the semen and the menstrual blood lies in a potential state in a male and a female child respectively, but makes its appearance with the attainment of puberty, along with the growth of beard and moustache in the case of males and the full development of breasts and uterus in case of females (SS. Su. 14; cf. CS. Ch. 2). This indicates that hormones are responsible for these changes which were unknown in those days. So, semen spread all over the body means or inferred as the Testicular hormone (Testosterone) is spread all over the body.

RELATIONSHIP AMONG DOSHA, DHĀTU AND MALAS

The *Dosha*, *Dhātu* and *Malas* are the main supports of the body (SS. Su. 1, cf. AS. Su. 19 and AH. Su. 2; also SS. Ut. 66). The *Rasa* which nourishes the other three *Dhātus* gets its motion or power of circulation (*Vahana*), its chemical activities (*Pāka*), viscidity (*Sneha*), hardness (*Kāthinya*), etc. from the *Doshas* (AS. Su. 1).

The seven *Dhātus* constituting the body are the lymph-chyle, blood, muscles, fat, bones, marrow and semen. In general, it may be considered that the modern tissues as corresponding to the *Dhātus* of Āyurveda. The Bioregulating Principles, *Vāyu*, *Pitta* and *Kapha* are not generally visible to the naked eye in their finest form. The form observed are in *mala* forms.

The *Doshas* pervade the whole body, whereas the *Dhātus* remain in their fixed places and have their fixed *Srotas* or channels. From the modern point of view, the veins, the arteries and the lymphatics are the main channels for the passage of nutrient matter for the tissues as well as the waste material from them. The three *Doshas* are carried all over the body along with the

substances flowing through the above channels. This view was confirmed by Susruta and Charaka also. Susruta described four kinds of *Sirãs* (SS. Sã. 7).

(i) those carrying *Vãyu*
(ii) those carrying *Pitta*
(iii) those carrying *Kapha*
(iv) those carrying blood.

At the same time he also told us (SS. Sã. 7) that there is no *Sirã* which carries only *Vãyu*, only *Pitta* or only *Kapha*. So, these *sirãs* may be considered as carriers of all the three. Charaka while describing *Srotas* said that, as the *Vãyu*, *Pitta* and *Kapha* have to circulate throughout the body, all the *Srotas* (channels) have so many paths for them to travel (CS. Vi. 5). By all the *Srotas*, Charaka means the *Srotas* carrying the *Prana vãyu*, water and food, those appertaining to the seven *Dhãtus* and to the three *Malas* namely, urine, faeces and sweat. The *Prãna* in the text (Charaka-Samhitã) has been interpreted by Chakrapãni as meaning the *Prãna vãyu*. This particular *Vãyu* has its own particular *Srota*.

The general *Vãyu*, however, is present everywhere in every *Srotas, as also are Pitta* and *Kapha*. Of all the *Srotas*, the blood vessels are found in almost every part of the body—in the muscles as well as in the hardest of bones—as every cell has to be nourished by blood. *Vãyu*, *Pitta* and *Kapha* travel throughout the body along with the blood stream.

There is yet another set of very important channels in the body. These are the 'nerves' which we may conceive as some kind of *Vãyu* to travel. It is by the function of these nerves that every kind of action of the body is controlled. The nerve-cells are specialized seats. Charaka said, "when bad *Doshas* touch the *Dhãtus*, they derange the latter" (CS. Sã. 6), but when good, the *Doshas* touch the *Dhãtus* and bring about good results. As *Doshas* are always in contact with the *Dhãtus*, the body tissues, there being a certain proportion of *Doshas* in every *Dhãtu*. The body would be in perfect health only when the *Doshas* are kept normal.

The normal healthy *Doshas* bring about good results only by properly nourishing the *Dhãtus*, the body tissues. So, it is the *Tridosha*, present in the food *Rasa* as a loaded form of *Doshas*, alone that nourish the dhãtu. The *Tridoshas* are the part and parcel of the *Dhãtus*; and it is finally in the *Dhãtus* that they are continually merging. It is the *Tridoshas* which are components and nutrients of the *Dhãtu* or tissue cells and it is through the *Dhãtus* that the *Tridosha*, the Bioregulating Principles, function.

5

Understanding Tastes: Rasas

The study of *Ãyurvedic* Pharmacology is based on certain basic principles and its study is known as *Dravyaguna vigyãna* (*vigyãn* means science). It is the study of the qualities of substances and is the mode of understanding the tastes or the *rasas* inherent in *dravyas.*

To understand the action of various medicinal drugs or substances used to regulate the functioning of *tridoshas* in the body, the knowledge of the six types of *Rasas* or tastes present in a substance is very essential.

Therefore, the study of *Dravyaguna vigyãna* becomes imperative to understand the taste action of substances (*Dravyas*). This study deals with the identification and knowledge of the properties of foods, drugs, remedies and *Rasas,* the tastes. It also deals with the study of classification of various drugs. Substance and matter are known as *Dravya* and *Guna* means quality which is inherent in them. *Dravya* (substance) is known by its qualities (*Gunas*) and the effect (*karmas*) they show. *Guna* and *Karma* cannot stay apart from a substance, and that is why are called *Samavãya,* i.e., they are inseparable.

The principles of Ãyurvedic Pharmacology differ from Allopathatic Pharmacology. In Allopathy efforts are made to isolate the active principles from the medicinal plants and then used on human beings after some rigid animal tests. Ãyurveda on the other hand stresses on the innate characteristics of a substance which act on a living system, with an objective to increase positive qualities and to eliminate the negative ones. Ãyurvedic prescriptions add additional medicinal substances in a compound or preparation to make it more effective. The effort here is on balancing the system whereas modern medicine forces the system to respond to the active ingredients only instead of balancing the Bioregulating Principles functioning in the body.

Where Ãyurvedic drugs first attempt to protect the body tissues from the attack of *doshas,* the modern chemical drugs try to alter the patient's metabolism to achieve its purpose which after sometime develops into a new disorder in the body. Modern researches neglect the fact that a plant's active principle may exist in the plant in a more complex form than they study, whereas, *Ãyurvedic* physicians utilize fully the natural wealth present in the medicinal plants without disturbing any body function. Efforts are made to balance the vitiated disorders of the

Bioregulating Principles already present in the body or created by any other substance present in the body, so that, the *Doshas* function in the body in proper order.

This chapter will be discussed under the following heads:

A. *Dravya*
B. *Rasa*
C. *Guna*
D. *Virya*
E. *Vipāka*
F. *Prabhāva*
G. *Karma*
H. Drugs (*Dravyas*) having predominant *Rasas*.

Efforts have been made to translate technical Sanskrit terms into close English equivalents. The terms whose meanings could not be expressed easily or adequately have been retained and defined to protect the essence of the information.

It may be noted that English equivalents many a time crimp the multiple levels of meaning that pervade in Sanskrit words.

(A) DRAVYAS

Dravyas are substances or drugs, which can be classified as follows:

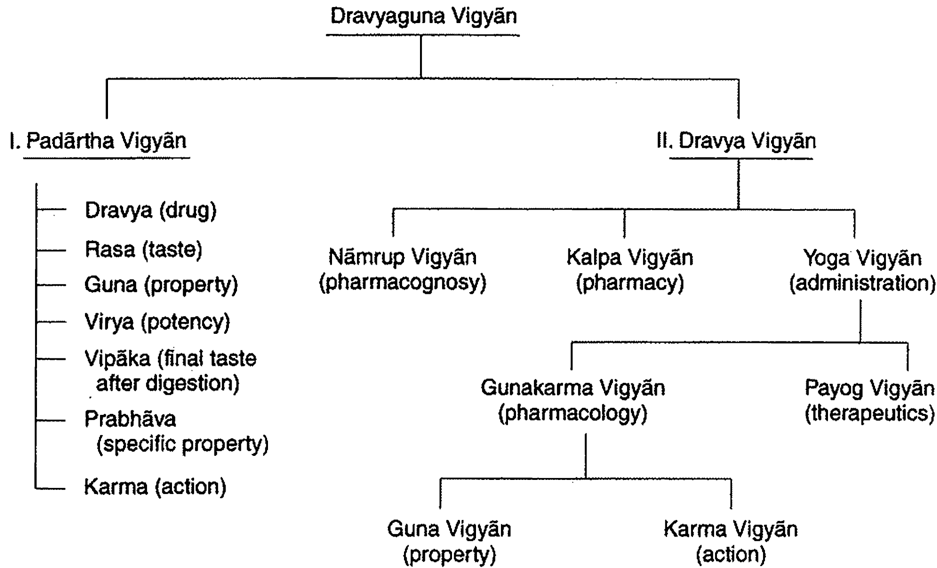


Fig. 5.1

I. PADĀRTHA VIGYĀN

All the basic principles of *Dravyaguna* are understood with the study of *Padārtha*. There are seven types of *padārtha* which are as follows:

1. *Dravya* (drug): It is a *Panchabhautic* substance which has *Guna* (property) and *Karma* (action), e.g., *Amlaki*. It is abode (*Āshraya*) of *Rasa, Guna, Virya, Vipāka, Prabhāva* and *Karma*.
2. *Rasa* (taste): Presence of taste can be sensed due to the presence of *panchabhuta* in different proportions. The basic taste of a substance is *Rasa*. The *Rasas* are *Madhura, Amla, Lavana, Katu, Tikta* and *Kasāya*, which are felt by the tongue and in the oral cavity.
   N.B: *Anurasa* means any flavour or taste in fresh vegetables or fruits that produce no obvious reaction. 'Anu' means weak or secondary.
3. *Guna* (property): It is the possessor of intrinsic properties as *Shita* (cold), *Ushna* (hot), etc., discussed under *Gurvādi Gunas*.
4. *Virya* (potency or dynamic property which evokes reaction in the body): Energy that leads the action of a drug is called *Virya*. It is of two types—*Shita* and *Ushna*. *Virya* is the energy present in the action principles.
5. *Vipāka* (final taste after *Rasa* has changed by digestion and its transformation in the body): End stage of *rasa* after digestion is known as *Vipāka*. It is grouped as:
   (a) *Guru* and *Laghu*
   (b) *Madhur, Amla* and *Katu*
6. *Prabhāva* (specific property): Specific and unexpressable property in a drug as *Visaghna* (antipoisonous) property of *Sirish, Kusthagna* (anti-skin disease) property of *Khadir, Hridya* (cardiotonic) in *Arjuna*.
7. *Karma* (action): Changes produced by drugs in the human body due to its *Rasa, Guna*, etc., as emesis, purgation, increase or decrease in weight of the body.

Padārtha having properties and action have been described in the text *Bhāva Prakāsha*. Each *dravya* (drug) has five properties—*Rasa, Guna, Virya, Vipāka* and *Prabhāva* which are responsible for the ultimate action (*Karma*) of a drug. So *Karma* is the final effect of a drug.

In Sanskrit, *Padārtha* means something which has a word meaning, where *Pada* means word and *artha* means meaning, and *Dravya* means anything which has property and action. Let us take an example of *Dravya Haritaki*. Its property and actions are as follows:

1. *Dravya*: *Haritaki*
2. *Rasa*: *Five types of taste (except one taste), Pancharasa*
3. *Guna*: *Laghu, Ruksha*
4. *Virya*: *Ushna*
5. *Vipāka*: *Madhur*
6. *Prabhāva*: *Tridosha nivritta*
7. *Karma*: *Dipan, Anuloman* and *Rasāyana*.

II. DRAVYA VIGYĀN

It is the study of *Dravyas* (substances). It is further divided into three branches which are as follows:

1. *Nāmrup vigyān* (pharmacognosy): Here full description of a drug is discussed with its family, genus, species, etc.

2. *Kalpa vigyān* (pharmacy): Preparation of medicine by the combination of various drugs.
3. *Yoga vigyān* (administration): Here effects of drugs are observed on human beings, which is again divided into two streams:
   (a) *Guna karma vigyān* (pharmacology): Here the effect of drug is observed in different parts of the body.
   (b) *Prayog vigyān* (therapeutics): Here drugs are used in various diseases according to the *Guna* and *Karma* told in the Āyurvedic texts. It is further divided into two:
   (i) *Guna vigyān* (property): Here *Guna* (property) and potency inside drugs are dealt.
   (ii) *Karma vigyān* (action): Here study of the effect of drug in different parts of the body is carried out in a scientific way. The most important properties of the *Bhutas* or *Mahābhutas* (elements or Building Blocks of Being) for therapeutic purpose in *Rasas* (tastes) are as follows:
      1. In earth weight
      2. In water lubrication
      3. In fire stimulation
      4. In air roughness
      5. In ether lightness

The indications from the above are:

1. An earthy drug is given to promote weight increase and growth.
2. A watery drug is given when there is loss of fluid from the body in excess.
3. When the function of the stomach is not in order, a 'fiery' dry stimulates the digestive fire *agni*.
4. When dieting, an airy drug helps.
5. Etheric drugs open and clean the *Srotas* (channels) of the body.

CHARACTERISTICS OF DRAVYAS (SUBSTANCES)

Substances *(Dravyas)* are classified according to the fundamental elements (*Panchabhuta*) or the Building Blocks of Being. The entire universe is made from the *panchabhuta.*

Table 5.1 Characters (Guna Karma) of Panchabhutika Dravyas (SS. Su. 41)

S.No	*Group (Varga)*	*Specific sense objects (Indriārtha)*	*Taste (Rasa)*	*Properties (Guna)*	*Actions (Karma)*	*Vipāka*
1.	Pārthiva (Earth)	Smell (Gandha)	—Madhura —Kasāya	—Guru (Heavy) —Khara (Rough) —Kathina (Hard) —Manda (Inert) —Sthira (Stable) —Visada (Clear) —Sāndra (Dense) —Sthula (Coarse)	—Promotive for growth —Weight (Gaurav) —Compactness —Stability —Strength (Bal) —Moving downwards, Purgation (Adhogaman)	Guru

(Contd)

S.No	Group (Varga)	Specific sense objects (Indriārtha)	Taste (Rasa)	Properties (Guna)	Actions (Karma)	Vipāka
2.	Āpya (Water)	Taste (Rasa)	—Madhura —Kasāya (Slightly)	—Drava (Liquid) —Snigdha(Oily) —Sita (Cold) —Manda (Dull) —Mridu (Soft) —Picchil (Gelatinous) —Sara (Mobile) —Guru (Heavy)	—Moistening (Kledana) —Oleation (Snehana) —Binding —Solution —Pleasing (Pralhādan)	Guru
3.	Tejas (Fire)	Vision (Rupa)	—Katu —Slightly Amla and Lavana	—Ushna (Hot) —Tikshna (Pungent) —Sukshma (Fine) —Ruksha (Dry) —Laghu (Light) —Visada (Non slimy) —Khara (Rough)	—Burning (Dahan) —Digestion (Pāchan) —Complexion (Prabhā) —Illumination (Prakāshan) —Heating —Moving upwards (Emesis)	Laghu
4.	Vāyabya (Air)	Touch (Sparsha)	—Kasāya —Slightly Tikta	—Sukshma (Fine) —Khara (Rough) —Sita (Cold) —Laghu (Light) —Visada (Clear)	—Non-sliminess —Lightness (Lāghavkar) —Lassitude —Roughening —Movements (Vichāran)	Laghu
5.	Ākāsha (Ether)	Sound (Shabda)	Āvyakta (Unmanifest)	—Slakshana (Smooth) —Sukshma (Subtle) —Mridu (Soft) —Vyavāyi (Spreading) —Visada (Non slimy) —Vivikta (Separating)	—Softening —Porousness —Lightness (Lāghav)	Laghu

(B) RASAS

Rasas are taste of substances sensed by the sensory buds present on the tongue and by the oral cavity. There are six types of tastes which are indicators of the properties, composition and probable action of the drug. In Āyurveda, the word *Rasa* carries other meanings also, which are:

1. The first *Dhatu* in the digestive process of the food and drugs is the *Rasa* in the body.
2. Juice of medicinal plants.
3. Denotes Mercury (*Pārada*) and this term has been used widely in *Rasa shāstra* (Science of *Rasa*) texts, which became the backbone of *Tāntric* alchemy. Mercury is also called rasa because it possesses all six types of *Rasas* (tastes) and it is the only available metal in liquid state. Mercury is the most important of all the inorganic substances used in Āyurveda as it is used in almost any type of disorder and acts an excellent catalytic agent and enhances the activity of any drug used in association with it. It is also used to promote the optimal nutrition and health of all the cells and tissues in the body. When and how the entry of mercury in Āyurveda is unknown, but in ancient days mercury was in use in China and Egypt for medicinal purpose.

Before therapeutic use, Mercury is extensively purified. *Samaskāra* of mercury means to bring it to purification for use on human being without proving toxic. *Samskārita* means to increase desirable qualities and to reduce negative toxic qualities and introducing previously absent qualities in a *Dravya*. *Rasas* in a *Dravya* act as indicators of the physico-chemical composition of the drug and thereby its effect in the body. There are six types of *Rasas* (tastes) representing six different combinations of *Mahabhutas* and their resultant activity. Each of the *Rasas* are made up of two fundamental elements of being (CS. Su. 26). *Mahābhutas* (basic elements) are responsible for the basic tastes in a substance or drug.

Table 5.2

S.No.	*Tastes (Rasas)*	*Elements (Mahābhutas)*	*Corresponding Chemicals*
1.	Sweet (Madhur)	Earth and Water (Prithvi and Jala)	Starch, Sugar, Carbohydrates Fats Amino acids
2.	Sour (Amla)	Earth and Fire (Prithvi and Tejas)	Organic Acids
3.	Salty (Lavana)	Water and Fire (Jala and Tejas)	Salts
4.	Pungent (Katu)	Air and Fire (Vāyu and Tejas)	Essential and Volatile oils Phenols
5.	Bitter (Tikta)	Air and Ether (Vāyu and Akāsha	Alkaloids Gycosides Bitter Principles
6.	Astringent (Kasāya)	Air and Ether (Vāyu and Prithvi)	Tannins

The six rasas act on the body in the following way: For example, the sweet (*Madhura*) *Rasa* having leading elements (*Mahābhutas*) earth and water is a builder of those tissues which are formed from earth and water. The sweet tasting substance strengthens *Kapha Dosha* (made from

earth and water), but weakens *Pitta Dosha* (made from fire element) and *Vāta Dosha* (made from air and earth).

CHARACTERS OF *RASAS*

These are presented in Table 5.3.

Table 5.3

S.No.	Rasa	Character
1.	Madhura	It is pleasant, strengthening, anointing in mouth, attracts ants and bees
2.	Amla	Causes salivation, sweating, burning sensation in mouth and throat, mouth cleansing, appetiser
3.	Lavana	Water retaining, softening, easily soluble, appetiser, produces burning sensation in mouth and throat
4.	Katu	Causes salivation, lacrymation, sensation in tongue, tingling, headache
5.	Tikta	Appetiser, mouth cleansing, produces dryness in mouth, overshadows all other tastes
6.	Kasaya	Produces stiffness and traction in tongue and throat, dryness in mouth, pain in cardiac region and heaviness

PROPERTIES OF *RASAS*

1. *Madhura Rasa* contributes to life preservation and increases the quality of *Kapha* in the body and is endowed with the attributes that specifically pertain to the material principles of earth and water.
2. *Amla Rasa* increases the taste for food and salivation and possesses attributes that belong to the principles of earth and fire.
3. *Lavana Rasa* also imparts a greater relish for food and lends softness to parts or limbs of the body and is possessed of corrective virtues and is mostly endowed with the attributes that characterize the elementary principles of water and fire.
4. *Tikta Rasa* is a good appetiser and also a good purifying agent in respect of ulcers and has the virtues of drying up pus, mucous, fat, etc., and the specific attributes air and ether predominate in it.
5. *Katu Rasa* destroys obesity and intestinal parasites, is anti-toxic in its character and a good curative for skin diseases and is highly possessed of attributes that belong to the principles of air and fire. It acts as a sedative and lessens the quality of fat, milk and semen.
6. *Kasāya Rasa* lessens the secretion from mucous membranes and the properties of earth and air are dominant in it. In the event of each of them being largely partaken of to the exclusion of all the other remaining *Rasas*, they give rise to many derangements.

Table 5.4 Properties (*Gunas*) of Tastes (*Rasas*)

S.No.	*Tastes (Rasas)*	*Properties (Gunas)*
1.	Madhur	Guru (Heavy), Sita (Cold), Snigdha (Oily), Picchila (Gelatinous)
2.	Amla	Guru (Heavy), Ushna (Hot), Snigdha (Oily)
3.	Lavana	Guru (Heavy), Ushna (Hot), Snigdha (Oily), Tikshna (Sharp)
4.	Katu	Laghu (Light), Ushna (Hot), Ruksha (dry)
5.	Tikta	Laghu (Light), Sita (Cold), Ruksha (Dry), Sukshma (Fine)
6.	Kasāya	Laghu (Light), Sita (Cold), Ruksha (Dry)

The medication effect of *Dravyas* (substances) on the Bioregulating Principles, the *Tridosha* can be discerned from their tastes. Table 5.5 (CS. Su. 1).

Table 5.5

Tastes (Rasas) that weaken the aggravated Doshas		*Dosha*	*Tastes (Rasas) that strengthen the weakened doshas*	
1. Sweet 2. Sour 3. Salty	(Madhur) (Amla) (Lavan)	Vāta	(Katu) (Tikta) (Kasāya)	Pungent Bitter Astringent
1. Sweet 2. Bitter 3. Astringent	(Madhur) (Tikta) (Kasāya)	Pitta	(Amla) (Lavan) (Katu)	Sour Salty Pungent
1. Pungent 2. Bitter 3. Astringent	(Katu) (Tikta) (Kasāya)	Kapha	(Madhur) (Amla) (Lavan)	Sweet Sour Salty

The result of the interaction of the elements (*Mahābhutas*) depends on the presence of the six tastes (*rasas*) with those of three *Doshas*, the Bioregulating Principles. The examples are as follows:

1. ***Vāyu*** The three *Rasas* containing the *Mahābhuta vāyu* are *Katu*, *Tikta* and *Kasāya* which strengthen and increase *Vāta* and all activities relating to the cleansing of the *Srotas* (channels), penetration and movement. The *rasas* that do not contain the *Mhābhuta Vāyu* are *Madhur*, *Amla*, *Lavan* weakens *vāta* and sedate it and on the other hand strengthen *Kapha*.
2. ***Pitta*** The three *Rasas* containing the *Mahābhuta Tejas* (*Amla*, *Lavan*, *Katu*) strengthen *Pitta* and functions associated with it rise in body temperature, all metabolic process (e.g., digestion of food, pigmentation of blood) and cleansing of the *Srotas*.

The *rasa* that do not contain *Mahābhuta Tejas* or *Agni* weakens *Pitta Dosha*, the Bioregulating Principle.

3. ***Kapha*** The *rasas madhur*, *amla*, *lavan* strengthen the action of *kapha* as they contain one or more *mahābhuta prithvi* and *jala* (like *kapha* itself). The *rasas katu*, *tikta* and *kasāya* sedate *kapha*, weakens it and normalise it.

The *Mahābhuta* prithvi enters into the composition of the *kasāya rasa* but *vāyu* is the leading element, as it is of the *katu* and *tikta rasas*. Whatever strengthens *vāta*, weakens the *kapha* principle and vice-verse.

The qualities and actions of the six types of *Rasas* on *Tridosha*, *Agni*, *Dhātu*, *Srotas* and *Malas* have been discussed in Table 5.6-5.10 respectively.

Table 5.6 Action of *Rasas* on *Tridosha*

S.No.	*Rasa (Taste)*	*Karma (Action) on Doshas (Bioregulating Principles)*
1.	Madhur	Increases Kapha and reduces Vāta and Pitta
2.	Amla	Stimulates Pitta and Kapha and reduces Vāta
3.	Lavana	Stimulates Pitta and Kapha and reduces Vāta
4.	Katu	Strengthens Vāta and Pitta and reduces Kapha
5.	Tikta	Reinforces Vāta and reduces Pitta and Kapha
6.	Kasāya	Reinforces Vāta and reduces Pitta through Sita guna and Kapha through Ruksha (dry) Guna

Table 5.7 Action of *Rasas* on *Agni*

S.No.	*Rasa*	*Action on Agni*
1.	Madhura	Because of the Guru (Heavy) Guna, its effect on the digestive fire is to slow down the process of digestion. Its oily (Snigdha), gelatinous (Picchila) nature give it a blocking (Like constipation), effect on the ducts
2.	Amla	It strengthens Agni, the biological fire and therefore aids digestion
3.	Lavana	It increases the digestive power of Agni and improves the appetite
4.	Katu	It strengthens Agni and therefore sharpens appetite and promotes digestion
5.	Tikta	Acts on digestive fire (Agni), supports the vāta located in the stomach and intestine by absorbing the mucous producing kapha
6.	Kasāya	It has no adverse effect on Agni

The *Rasas Katu, Amla* and *Lavana* are *agneya* (fiery) and have the property of *Dipana* (appetiser) and *Pāchana* (Digestive).

Tikta Rasa stimulates *Agni* by promoting *Samāna Vāyu* and by absorbing *Kapha* (excessive mucous secretion which is responsible for *Mandāgni*.

Madhura and *Kasāya Rasas* have an adverse effect on *Agni*.

Table 5.8 Action of *Rasas* on *Dhātus* (Body Tissues)

S.No.	*Rasa*	*Action on Dhātus*
1.	Madhura	It is the only rasa which stimulates anabolic activity in the body by increasing all the dhātus and vitality in general.
2.	Amla	Stimulates activities of Agni and has decreasing effect on Sukra dhātu (semen) and not recommended as tonic.
3.	Lavana	It has catabolic effect and acts by increasing water content and causes physical sensation of laxness in the body. It assists in breaking down the body tissues.
4.	Katu	It is catabolic, drying and absorptive.
5.	Tikta	The action on the dhatu is catabolic. Tikta rasa depletes medas, vasā, majjā and Lasika which decrease disease producing factor in Prameha (Diabetes).
6.	Kasāya	Because of astringent property helps in healing process. Diminution in the amount of urine is due to absorptive property and normalises penetration through skin.

Table 5.9 Action of *Rasas* on *Srotas* (Channels)

S.No.	*Rasa*	*Action on Srotas*
1.	Madhura	If the digestion is normal then sweet taste in Dravyas acts as a tonic and the ducts (Srotas) of the body remain open. Madhura Rasa has specific effect on Srotas (Channels, rather they may participate in Srotavarodha—obstructing the channels). In this condition bitter and pungent substance are taken to cleanse out ducts and to regulate digestion.
2.	Amla	It has no specific effect on Srotas, rather it may participate in causing Srotavarodha.
3.	Lavana	It causes Srotasodhana, i.e., cleanses body ducts. It has no absorbing property but liquefies the solid mass and helps to expel it out because of its Tikshna guna.
4.	Katu	Causes Srotasodhana and has a cleansing effect. It is due to Vāyu and Agni which absorb the fluid and expel the obstructive material and is responsible for gentle expectoration.
5.	Tikta	It also causes Srotasodhana and has the cleansing action on the body's ducts (srotas). It acts like katu, rasa by absorbing the fluid and slimy material due to Vāta and inherent dry quality helps to absorb slimy material white Akasha (ether) element creates space and its power of penetration gives it an access to its smallest ducts.
6.	Kasāya	It has no particular effect on Srotas, rather it may participate in Srotavarodha, i.e. in obstructing the channels and pores.

Table 5.10 Action of *Rasas* on *Malas* (Wastes)

S.No.	Rasas	Having Mahābhuta	Have Action as
1.	Madhura Amla Lavana	Prithvi	—Laxative —Diuretic —Carminitive
2.	Katu Tikta Kasaya	Vāyu	—Constipating —Anti-diuretic —Causes obstruction in passing flatus

Kasāya Rasa is best for *Stambhana* (astringent) action and is used for the treatment of Diarrhoea, *Haemarrhages*, Polyuria, etc.

Table 5.11 Positive and Negative Actions of Rasas

S.No.	Rasa (Taste)	Actions (Karma) (Positive Effects)	Disorders caused by Excessive use (Negative Effects)
1.	Madhura (Sweet)	Promoters of weight increase, Vitalizer, Tonic, Laxative, Diuretic, Healing, Brain Tonic	Obesity, Anorexia, Respiratory Disorders, Goitre, Swelling of lymph nodes, Filarea, Diabetes, worms, etc.
2.	Amla (Sour)	Stimules Appetite, expels winds (Carminitive), Combats Anorexia, Promotes Bleeding (Anti-coagulant)	Blood Disorders, Swellings, Inflammations, Burning sensation, Skin diseases, Anaemia, Haemorrhage, Vertigo, Defects of Vision
3.	Lavana (salty)	Moistening, Appetiser, Digestive, Expectorant, Harmful to semen, Diuretic, Vitiates Blood, sialagogue	Impotency, Grey Hairs, Falling of Hairs, Haemorrhage, Skin Diseases, Erisepelas, Gastric Disorders
4.	Katu (Pungent)	Mouth cleaning, Appetiser, Digestive, Promotes weightlessness, Anthelmentic, Nerve stimulant, useful in Dyspepsia, cardiac and Skin Disorders	Impotency, Unconsciousness, Vertigo, Debility, Thirst, Burning sensation, Mental weakness
5.	Tikta (Bitter)	Appetiser, Digestive, Anti-Pyretic, Anthelmentic, Removes Pus, Toxins and serous Discharges; useful in Anorexia, Skin Diseases and Burning sensation	Emaciation, Debility, Vertigo, Dryness of Mouth, Neurological Diseases, Mental weakness, Nausea
6.	Kasāya (Astringent)	Astringent, Absorbent, Healing, Harmful in Semen, Anti-Diuretic, Normalises Skin Pigmentation	Dryness of Mouth, Cardiac Pain, Tympanitis, Impotency, Neurological Disorders, Obstruction in channels (e.g. constipation)

Different Combinations of the *Rasas* (Tastes)

This is the *Rasa* of a substance or drug which forms the primary attribute of it. This is said to be water originated principle and is also composed of *Panchabhuta*. This water originated *Rasa* (taste) is modified through contact with the rest of the material elements and divided into six kinds as:

Madhura (M), *Amla* (A), *Lavana* (L), *Katu* (K), *Tikta* (T) and *Kasaya* (Ka). Of the groups shown in Table 5.12, first group is more restorative than the second and the second more than the third and so on. These in their turn when combined with one another, give rise to 63 kinds, but innumerable are the combination of *Rasa*.

Table 5.12

S.No.	*M*	*A*	*L*	*K*	*T*	*Ka*
1.	M	—	—	—	—	—
2.	—	A	—	—	—	—
3.	—	—	L	—	—	—
4.	—	—	—	K	—	—
5.	—	—	—	—	T	—
6.	—	—	—	—	—	Ka
7.	M	A	—	—	—	—
8.	M	—	L	—	—	—
9.	M	—	—	K	—	—
10.	M	—	—	—	T	—
11.	M	—	—	—	—	Ka
12.	—	A	L	—	—	—
13.	—	A	—	K	—	—
14.	—	A	—	—	T	—
15.	—	A	—	—	—	Ka
16.	—	—	L	K	—	—
17.	—	—	L	—	T	—
18.	—	—	L	—	—	Ka
19.	—	—	—	K	T	—
20.	—	—	—	K	—	Ka
21.	—	—	—	—	T	Ka
22.	M	A	L	—	—	—
23.	M	A	—	K	—	—
24.	M	A	—	—	T	—
25.	M	A	—	—	—	Ka
26.	M	—	L	K	—	—
27.	M	—	L	—	T	—
28.	M	—	L	—	—	Ka

(Contd)

S.No.	M	A	L	K	T	Ka
29.	M	—	—	K	T	—
30.	M	—	—	K	—	Ka
31.	M	—	—	—	T	Ka
32.	—	A	L	K	—	—
33.	—	A	L	—	T	—
34.	—	A	L	—	—	Ka
35.	—	A	—	K	T	—
36.	—	A	—	K	—	Ka
37.	—	A	—	—	T	Ka
38.	—	—	L	K	T	—
39.	—	—	L	K	—	Ka
40.	—	—	L	—	T	Ka
41.	—	—	—	K	T	Ka
42.	M	A	L	K	—	—
43.	M	A	L	—	T	—
44.	M	A	L	—	—	Ka
45.	M	A	—	K	T	—
46.	M	A	—	K	—	Ka
47.	M	A	—	—	T	Ka
48.	M	—	L	K	T	—
49.	M	—	L	K	—	Ka
50.	M	—	L	—	T	Ka
51.	M	—	—	K	T	Ka
52.	—	A	L	K	T	—
53.	—	A	L	K	—	Ka
54.	—	A	L	—	T	Ka
55.	—	A	—	K	T	Ka
56.	—	—	L	K	T	Ka
57.	—	A	L	K	T	Ka
58.	M	—	L	K	T	Ka
59.	M	A	—	K	T	Ka
60.	M	A	L	—	T	Ka
61.	M	A	L	K	—	Ka
62.	M	A	L	K	T	—
63.	M	A	L	K	T	Ka

So we find from above:

1. different tastes	1 to 6
2. different tastes	7 to 21
3. different tastes	22 to 41
4. different tastes	42 to 56
5. different tastes	57 to 62
6. different tastes	63

NB: Six types of *Rasas* reduce or increase actions of *Vāyu, Pitta* and *Kapha*. But still 20 Gunas have been mentioned, becaused the 63 types of *Rasas* has various types of Gunas (properties) inherent in then. It was observed that in all 20 types of varied properties are common and each type has 4 or 5 types of *Gunas* and because of this varied properties inherent in a substance show action accordingly which are often stronger than the actions due to *Rasas*. This is the reason why 20 *Gunas* have been specifically mentioned is thus explained.

(C) GUNA

The physical and pharmacological property of a substance (*Dravya*) or plant is *Guna*. It is as important as *Rasa* (taste) in making accurate selection of medication. The *Rasa* tells as about the therapeutic action and the *Guna* (properties) decides the potential action. Guna produces inside the human body the qualities similar to those possessed by itself outside the body. The 20 *Gunas* have been grouped into 10 pairs having opposite properties, e.g., *Guna-Laghu, Sita-Vshna, Snigdha Ruksha,* etc. These *Gunas* are commonly known as *Gurvādi Gunas* present in a substance. These are Physico-pharmacological properties of drugs which the important instruments of drug action. They are termed as such because they produce similar properties in the body. *Gunas* in a *Dravya* (substance) cannot be isolated from drugs in their abstract form and such are always applied in terms of drugs which we commonly call *Guru Dravya, Laghu Dravya* and so on.

The basic properties (*Gunas*) are expressed as adjectives as they are an integral part of the *Dravya* (substance) and of its potential action. These *Gunas* are more significant than *rasas*, e.g., fresh water which tastes sweet (*Madhura*), stimulates and strengthens *kapha,* but boiled hot water pacifies and reduces *kapha* though water is still sweet (*Madhura*) but the property (*Guna*) added now is *Ushna* (hot). In certain substances the basic *Gunas* enhance the action of taste very much, e.g., *Ãmlaki* (*Emblica officinalis*) has sour *Amla Rasa* (taste) but this particular *Rasa* is much intensified by the properties *Sita* (cold) and *Mridu* (soft).

The *Rasas* get deranged on digestion and frequently depend on the made of *Gunas* (properties) of a substance. The properties *Guru* (heavy), *Sita* (cold) *Snigdha* (oily) and *Picchila* (slimy) become *Guru* (heavy) in the *Vipāka* form, but substances which are hot, light and clear are *Laghu* (light) in the *Vipāka* form.

Gunas are guide to external as well as internal use, whereas the *Rasas* are a guide to internal use only.

Gunas and their effect on *Tridosha*

Table 5.13 gives a synopsis of 20 *Gunas* (properties or qualities) of their *Mahabhutas* (component, elements) and their effect on the *Tridoshas,* the Bioregulating Principles and the tendency of their *Karma,* the main action (AH. Su. 1 and SS. Su. 46). See below, next page.

Table 5.13

S.No.	Guna (Properties)	Bhautic Samgathan (Mahābhutas, Elements)	Dosha Prabhāva (Effect on Dosha)	Mainly Deals with	Mukhya Karma (Main Action)	Anya Karma (Other Actions)	Udāharan (Examples of Remedies)
1.	Guru (Heavy)	Prithvi (Earth) + Jala (Water)	—Kaphakar (↑ K) —Vātahar(↓ V)	Weight	Brimhana, Weight increasing	Gaurav, Upalepa, Bal, Tripti, Gurupāk, Makes Agni Mandya	Musli, Māsha, Corn, Potatoes, Legumes
2.	Laghu (light)	Vāyu (Air) + Ākāsh (Ether) + Tejas (Fire)	—Vātakar (↑V) —Kaphagna (↓K)	Weight	Langhana, Weight reducing	Utsāha, Sphurti, Malakshaya, Atripti, Daurbalya, Krishatā, Vranarop-ana, Laghupāka	Laja, Mudga, Wheat bran, Junipar Leaves (contains tanin), Drugs promoting digestion, Menthol, Eucalyptus
3.	Sita (Cold)	Jala (Water)	—Vātaslesmakar (↑VK) —Pittaghna (↓P)	Temperature	Stambhana, Cooling	Murchā, Trishanā, Sweda, Dāha Nāsan	Chandan, Daisy, Horseleek, Wine Shoots, Diaphoretics
4.	Ushna (Hot)	Tejas (Fire)	—Vāiasleshakar (↓VS) —Pittakar (↑P)	Temperature	Swedana, Heating	Murchā, Trishnā, Dāha, Pāchan, Swedakārak, Rasaraktādipra-vardhak	Chitrak, Elder flower tea, Lime flower tea, Warming seeds like fennel, Anise, Caraway, Mustard Plasters
5.	Snigdha (oily, viscous, soothing)	Jala (Water)	—Kaphakar (↑K) —Vātahar (↓V)	Emoliency	Kledana, Moistening	Snehamardankar, Balya, Varnya, Vājikar	Ghrita, Madhuyasthi in dry cough, Soapwart, yoilet, onion, coltsfoot, Lungwort

(Contd)

S.No.	Guna (Properties)	Bhautic Samgathan (Mahābhutas, Elements)	Dosha Prabhāva (Effect on Dosha)	Mainly Deals with	Mukhya Karma (Main Action)	Anya Karma (Other Actions)	Udāharan (Examples of Remedies)
6.	Ruksha (Dry, Rough, Abrasive)	Prithvi (Earth) + Vāyu (Air) + Tejas (Fire)	—Vātakar (↑V) —Kaphahar (↓K)	Emoliency	Soshana, Absortive	Rukshya, Kāthinyakar, Khara, Balavamanāshan, Stambhan	Yava, Rice gruel, Powdered rice or wheat, Starch, Lycopodium power, Sage leaves
7.	Manda (Mild, Dull, Slow, Inachive)	Prithvi (Earth)+ Jala (Water)	—Kaphakar (↑K) —Pittahar (↓P)	Intensity	Samana, Slowing, retarding	Chirakāri, Sithil, Alpakāryakar	Curd (yoghurt), Valerian, Hops, Camomile, Honey
8.	Tikshna (Intense, Quick, Active)	Tejas (Fire)	—Pittakar (↑P) —Kaphahar (↓K)	Intensity	Sodhana, Sharpening, Accelerating	Lekhan	Chitraka, Rosemary, Watercress, Mistletoe, wood sorrel, Warmwood, Garlic, Banana, Apple
9.	Sthira (Immobility, Stable, Static, Compact)	Prithvi (Earth)	—Kaphakar (↑K)	Fluidity	Dhārana Stabilizing	Stambtan, Chirasthāyi	Jatiphal, Oak Bark, Bloodwort, Marigold, Dead Nettle
10.	Sara (Mobility, Mobile)	Vāyu (air)	—Kaphakar (↑K)	Fluidity	Prerana (Moving, Driving)	Malapravartak	Amaltās, Rhubarb roots, aloes, Senna leaves
11.	Mridu (Soft)	Jala (Water) Akāsh (Ether)	—Kaphakar (↑K)	Rigidity	Slathana (Softening, Loosening)	Dāha, Pāka	Fats, Eranda Tel, Linseed Oils, Mucilaginous drugs, Marshmallow

(Contd)

S.No.	Guna (Properties)	Bhautic Samgathan (Mahābhutas, Elements)	Dosha Prabhāva (Effect on Dosha)	Mainly Deals with	Mukhya Karma (Main Action)	Anya Karma (Other Actions)	Udāharan (Examples of Remedies)
12.	Kathina (Hard)	Prithvi (Earth)	—Vātakar (↑V)	Rigidity	Dridhikarana (Hardening, Indurative)	—	Calcium, Pravāl, Lime, Bone, Teeth, Comfrey, Oats, Millets, Horsetail
13.	Visad (Clear, Transparent)	Prithvi (Earth) + Tejas (Fire) + Vāyu (Air) + Ākāsh (Ether)	—Vātakar (↑V)	Adhesion	Kshālana (Cleansing)	Kledasoshan, Vranaropan	Alkali, Kshāra, Arnica, Marigold, Blood Purifying, Soapwart, Juniper Berries
14.	Picchil (Slimy, Gelationous, Turbid, Sticky)	Jala (Water)	Kaphakar (↑K)	Adhesion	Lepana (Oiling, Lubricating)	Jivanija, Balya, Sandhān, Gurupāk	Isabgol, gum Arabic, gelatine, Linseed oil, Mucilagenous drugs
15.	Slakshan (Smooth)	Tejas (Fire)	—Pittakar (↑P)	Texture	Ropana (Heaing, Soothing)	—	Dugdhapāshān, Arnica
16.	Kshara (Rough)	Vāyu (Air)	—Vātakar (↑V)	Texure	Lekhana (Scraping, Counter-irritant)	—	Karanjphal, Mustard Plaster
17.	Sukshma (Fine, Minute, Penetrating)	Agni (Fire) Vāyu (Air) Ākāsh (Ether)	—Vātakar (↑V)	Density	Vivarana (Penetrating, Piercing)	—	Alcohol, Grapesugar, Essential oils
18.	Sthula (Gross, bulky)	Prithvi (Earth)	—Kaphakar (↑K)	Density	Sangvaran (Obstructing, Clogging)	Sthoulyakar, srotorodhak, Gurupāka	Cakes, Curds, Superfine flour, white sugar, Pudding, pastries

(Contd)

S.No.	Guna (Properties)	Bhautic Samgathan (Mahābhutas, Elements)	Dosha Prabhāva (Effect on Dosha)	Mainly Deals with	Mukhya Karma (Main Action)	Anya Karma (Other Actions)	Udāharan (Examples of Remedies)
19.	Sāndra (Dense, Compact)	Prithvi (Earth)	—Kaphakar (↑K)	Viscosity	Prasādana (Solidifying)	Sthoulyakar	Malai, Cream, Butter, Fats
20.	Drava (Liquid, Fluidity)	Jala (Water)	—Kaphakar (↑K)	Viscosity	Vilodana (Liquefying)	Kledakar, Prasāri	Water, Milk

(D) VIRYA

The *Virya* of a *Dravya* (substance or drug) is the potency of a drug which is responsible for drug action (CS. Su. 26; SS. Su. 41; AS. Su. 17). A drug devoid of *virya* will be inactive. A particular part of a plant becomes active because of *Virya*. Similarly, a drug may lose its *virya* (potency) after a period of time. The difference between *Guna* and *Virya* is only potency. Potent *Gunas* of a drug are called *Virya*, otherwise they are called *Gunas*. Practically only two broad categories of *Virya—Sita* and *Ushna* are recognized. Technically, the potent ones amongst the 20 types of *Gunas* come under the category of *Virya*. For considering therapeutic actions, six types of *Virya* have been identified. They are as follows:

Table 5.14

S.No.	Action	English Equivalents	Virya
1.	Brimhana	Weight Promoting	Guru (Heavy)
2.	Langhana	Weight Reducing	Laghu (Light)
3.	Stambhana	Cooling	Sita (Cold)
4.	Swedana	Heating	Ushna (Hot)
5.	Snehana	Oleating	Snigdha (Oily)
6.	Rukshana	Non-Oleating	Ruksha (Dry)

In other words therapeutic action especially in *sodhana* therapy, which is also known as *Panchakarma* or body purification therapy can be expressed in this way.

1. *Guru Virya* in a substance or drug helps to put on weight and is called *Brimhana* therapy.
2. *Laghu Virya* in a substance breaks down the tissues and expels body waste in *Langhana* therapy which helps the patient to lose weight.
3. *Sita Virya* in a substance is cooling and is used in *Stambhana* therapy.
4. *Ushna Virya* in a substance is healing and is employed in *Swedana* (sweating) therapy.
5. *Snigdha Virya* in a substance is used in *Snehana* or oil therapy.
6. *Ruksha Virya* in a substance has a drying effect in *Rukshana* therapy.

The active power present in a drug is known as *Virya* and the *Guna* or the property of a medication becomes functional as soon as *Virya* is activated. A medication may have a number of useful *Gunas* (qualities), but to be curative, it must be capable of displaying *Virya*.

The plants which have *Sita Virya*, with a *Sita Guna* manifest themselves as cooling, have to be collected in the cold season at the time when the earth is losing energy. The plants which are *Ushna Virya*, with a *Ushna Guna* manifesting as hot are collected during hot season, at the time when the earth is gaining energy.

In Āyurvedic classics, the year is classified into two periods one which is *Saumya*, i.e., cold time of the year, when the moon has a cooling impact on the earth; which indicates the seasons

Varshã, Sarat and *Hemanta* (mid-July to mid-January). *Ãgneya,* the hot time of the year is ruled by sun and absorbs earth energy and the seasons indicated are *Sishira, Vasanta* and *Grishma* (mid-January to mid-July).

The *Virya* in a plant with emetic action is best when gathered from soils in which the elements fire and ether prevail and the nature of the soil in which the plant is growing is very important. Charaka and Susruta mentioned that the potency of a drug depends on the quality of soil and season in which they grow.

To preserve the strength of medicinal substances, proper storage is crucial.. Incorrect harvesting and faulty storage often leads to loss of *Virya* present in the medicinal substances. The active principles in a plant may be present in the whole plant or in specific parts like roots, leaves, barks, etc., which are collected and used for curing various ailments.

In Ãyurveda there are various medicinal preparations—powder (*Churna*), pills (*Gutikã*), paste (*Avalehas*), medicinal wines (*Ãsava* and *Arista*), etc., having different periods of potency or *virya,* and hence have to be used before the specific period of time to get full benefits.

Clinically drugs having *Ushna Virya* property are prescribed to reduce *Vãtic* and *Sleshmic Doshas,* the Bioregulating Principles in the body and contra-indicated in *Paittic* disorder showing symptoms like burning sensation, heat, etc., in the body. While using *Sita Virya* substances, it is used to reduce heating or burning and effect of *Pattic* principles in the body specifically but not in *Vãta* and *Kapha* disorders because *Sita* increases *Vata* disorder and increases *Kapha.*

This knowledge is very useful in clinical practice.

(E) VIPAKA

Vipãka is the state of food and drug under bio-transformation in the body. During digestion, some transformation of the substance ingested takes place in the composition of the *Panchabhuta,* the basic elements present in them and finally responsible for final action on the tissues (*Dhãtus*) of the body.

Vipãka has been grouped into two by Susruta—Guru, acts as anabolic and builds up body tissues; and *Laghu,* acts as catabolic and breaks down the tissues. But Charaka grouped *Vipãka* into three–*Madhura* (sweet), *Amla* (sour, acid) and *Katu* (pungent)–according to the three *Doshas. Madhura Vipãka* comes under the anabolic group, while *Amla* and *Katu* come under the catabolic group. *Amla* and *Katu Vipãka* may be differentiated again according to their action on *malas* (faeces).

Amla Vipãka is laxative while *Katu Vipãka* is constipative.

So, it is observed that *Madhura* (sweet) *Rasa* strengthens *Kapha Dosha,* builds up body tissues as is observed in *Guru Vipãka,* while *Amla* (sour) *Vipãka* strengthens *Pitta Dosha,* breaks down body tissues as observed in *Laghu Vipãka* with its laxative property after digestion of food and on the other hand *Katu* (pungent) *Vipãka* strengthens *Vãta Dosha* and breaks down body tissues like *Laghu Vipãka* after digestion of food by causing constipation.

Amla (sour) and *Katu* (pungent) *Vipãka* are distinguished by their action after the digestion where *Madhura* and *Lavana Rasas* remain sweet in *Vipãka;* whereas *Katu, Tikta* and *Kasaya Rasas* give rise to *Katu Vipãka* and *Amla Rasa* gives rise to *Amla Vipãka.*

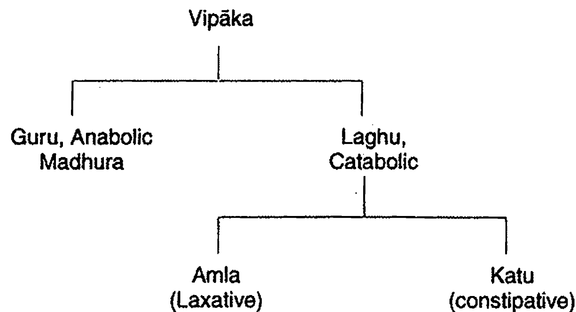


Fig. 5.2

The properties (*Gunas*) of the undigested food and drugs play an important role in this change. Remedies that are soothing like substances having *Madhura* (sweet) *Rasa* are anabolic and help to build up body tissues; and substances that are rough as in *Katu* (pungent) *Vipāka* act like a catabolic in the body and help to break down body tissues.

It is observed that the effect of *Rasas* is extended up to the level of digestion, but *Vipāka* have systemic effect after metabolism.

The effects of *Vipākas* according to Charaka and Susruta are given in Table 5.15.

Table 5.15

	Vipāka	Guna	Dosha	Dhātu	Mala
Charaka	1. Madhura	Snigdha, Guru	Kapha increasing	Semen increasing	—Laxative —Diuretic
	2. Amla	Snigdha, Laghu	Pitta increasing	Semen decreasing	—Laxative —Diuretic
	3. Lavana	Ruksha, Laghu	Vāta increasing	Semen decreasing	—Constipative —Diuretic
Susruta	1. Guru	—	—Kapha increasing — —Vāta increasing	Semen increasing	—Laxative —Diuretic
	2. Laghu	—	—Vāta-Pitta increasing —Kapha decreasing	Semen increasing	—Constipative —Antidiuretic

(F) PRABHĀVA

A particular composition of a drug or medicinal substance responsible for specific action is called *Prabhāva* (CS. Su. 26; AS. Su. 17). *Prabhāva* of a substance is the pharmacological action due to known and unknown potent ingredients in that substance. In *Tāntrik* practice plants like *Apāmārg* (*Achyranthes aspera*) or *Sweta Ghunguchi* (*Abrus precatorius*) have a specific effect on the body when they are used after collecting in the early morning before sunrise on the day of *Pushyā*

Nakshatra (eighth lunar mansion), based on astrological timings. How these effect the body is still unknown to the present science, and this action is also considered as *Prabhāva* of a *Dravya* in Āyurveda. Further we observe the cardiotonic activity of *Ārjuna* (*Terminalia arjuna*) tree bark which gives remarkable benefit. The anti-leprotic action of *Khadira* (*Acacia catachu*) tree bark extract, etc., also comes under this category. Although there may be a number of drugs similar to *Arjuna* in *Rasa, Guna, Virya* and *Vipāka* but the cardiotonic effect of *Arjuna* is specific to its natural composition which is not found in other drugs. The activities of emetics, purgatives, narcotics, poisons, intellect promoting drugs, etc., are said to be due to the action of *Prabhāva* of a medicament.

The theory of drug action is based on the law of similarity and dissimilarity known as *Samavāya* and *Visesha.* For example, the drugs preponderant in *Prithvi* (earth) and *Jala* (water) *Mahābhuta* would naturally be attracted to the similar body tissues (*Dhātus*) and get filled there by making an addition to them. It is like lock and key system.

In conclusion, the pharmacology in Āyurveda is based on scientific lines and in this respect one has to consider the following points which may be termed as seven *Padarthas* (*Pada* means word, *Artha* means meaning. It means any word that has meaning) of the *Dravya Guna Vigyāna* as mentioned before. They are as follows:

Table 5.16

S.No.	Padartha	English Equivalents
1.	Dravya	Drug
2.	Guna	Property
3.	Rasa	Taste
4.	Virya	Potency
5.	Vipāka	Metabolic Property
6.	Prabhāva	Specific Composition
7.	Karma	Action

A drug is said to be the substratum of properties and actions inherent in it.

(G) KARMA

Karma of a substance is the total action of a medication. In general rule the *Rasa* in a substance or drug gives way to *Vipāka* after digestion, just as *Vipāka* gives way to *Virya* (Potency) and *Virya* to *Prabhāva* and the pharmacological action *Karma* is the result of all these taken together.

The drugs in therapy are either used for *Samsamana,* i.e., to calm down the vitiated *dosha* or for *samsodhana,* where they clean and expel the excess of *doshas* out of the body and this is popularly known as *Panchakarma* therapy. *Pancha* means five and *Karma* means action or

procedure. The *Samsodhana* or the body purification procedure is obtained through five possible methods of elimination or expulsion. They are:

Table 5.17

S.No.	*Panchakarma*	*English Equivalent*
1.	Vamana	Vomiting
2.	Virechana	Purging
3.	Anuvāsana	Oily Enemas
4.	Niruha	Deccoction Enemas
5.	Sirovirechana	Errhines

A detailed classification of the medications used in *Panchakarma* therapy are found in the classical texts. Charaka enumerated 50 groups of 10 plants according to their pharmacological action called *Mahakashāya*. On the other hand Susruta mentioned 37 groups according to the pharmacological action and therapeutic use, each group indicative of particular disease.

Charaka did the grouping on the basis of action while Susruta did it on the basis of the typical drug in the group. For instance *Jivaniya* group of Charaka is *Kākolyādi* group of Susruta with *Kākoli* as the typical representative of that group.

Keeping in view the multi-*rasa* nature of *Dravyas*, 63 possible combinations have been proposed before in *rasa* section, in consonance with the identical number of combination of *doshas*. The idea is that a particular combination of *Rasa* is to be applied in case of identical combination of *doshas*, the Bioregulating Principle disorders.

The tables of the Dravyas under various heads have been given below:

A. Charaka's 50 groups of drugs
B. Susruta's 37 groups of drugs
C. Drugs grouping by Charaka for *Panchakarma* Therapy
D. Drugs action on various systems of the body
E. Comparative statement of the groups of drugs described by Charaka and Susruta
F. Some groups of drugs based on physical qualities widely used in therapeutic practice
G. Drugs and foodstuffs having Predominant *Rasas*

A. CHARAKA'S 50 GROUPS OF DRUGS

Charaka defined 50 groups of drugs according to action (CS. Su. 4). The terms given in brackets ( ) are the other name of the drug.

Table 5.18

1. *Jivaniya* (Vitalizer)

1. Jivaka
2. Risabhaka
3. Medã
4. Mahãmedã
5. Kãkoli
6. Kshira Kãkoli
7. Mudgaparni
8. Mãsaparni
9. Jivanti
10. Madhuka (Madhuyasthi)

2. *Brimhaniya* (Bulk-promoting)

1. Ksirini
2. Rãjaksavaka (Dugdhikã)
3. Aswagandhã
4. Kãkoli
5. Kshirkãkoli
6. Vãtyãyani (Balã)
7. Bhadraudni (Nagabalã)
8. Bharadwãji
9. Payasyã (Krhiravidãri)
10. Risyagandhã (Atibalã)

3. *Lekhaniya* (Emaciating)

1. Musta
2. Kustha
3. Haridrã
4. Dãru-haridrã
5. Vachã
6. Ativisã
7. Katurohini (Katukã)
8. Chitraka
9. Chirabilwa
10. Haimavati

4. *Bhedaniya* (Scabula-breaking)

1. Suvahã (Trivrit)
2. Arka
3. Urubuka (Enanda)
4. Agnimukhi (Lãngali)
5. Chitrã (Danti)

(Contd)

6. Chitraka
7. Chirabilwa
8. Sankhini (Aparājitā)
9. Sakulādani (Katukā)
10. Swarnakshirini

5. *Sandhaniya* (Healing)

1. Madhuka (Madhuyasti)
2. Madhuparni (Guduchi)
3. Prisniparni
4. Ambasthaki (Pāthā)
5. Samangā (Lajjālu)
6. Mocharasa (Sālmali Niriyāsa)
7. Dhātaki
8. Lodhra
9. Priyangu
10. Katphala

6. *Dipaniya* (Appetiser)

1. Pippali
2. Pippalimula
3. Chavya
4. Chitraka
5. Sringavera (Sunthi)
6. Amlavetasa
7. Maricha
8. Ajamodā
9. Bhallātakāsthi
10. Hingu Niryāsa

7. *Balya* (Tonic)

1. Aindri
2. Risabhi (Kapikacchu)
3. Atirasā (Satavari)
4. Risyaproktā
5. Payasyā (Kshiravidāri)
6. Aswagandha
7. Sthirā (Sālaparni)
8. Rohini
9. Balā
10. Atibalā

8. *Varnya* (Complexion-promoting)

1. Chandana

(Contd)

2. Tunga (Punnãga)
3. Padmaka
4. Usira
5. Madhuka (Madhuyasti)
6. Manjistha
7. Sãrivã
8. Pãyasyã (Kshiravidãri)
9. Sitã (Durvã)
10. Latã (Priyangu)

9. *Kanthya* (Beneficial for throat)

1. Sãrivã
2. Iksumula
3. Madhuka (Madhuyasthi)
4. Pippali
5. Drãkshã
6. Vidãri
7. Kaitarya (Katphala)
8. Hamsapadi
9. Brihati
10. Kantakãrikã

10. *Hridya* (Cordial)

1. Amra
2. Ãmrãtaka
3. Lakucha
4. Karamarda
5. Vriksãmla
6. Amlavetasa
7. Kuvala
8. Badara
9. Dãdima
10. Mãtulunga

11. *Triptighna* (Anti-Saturative)

1. Nãgara (Sunthi)
2. Chavya
3. Chitraka
4. Vidanga
5. Murvã
6. Guduchi
7. Vochã
8. Musta
9. Pippali

(Contd)

10. Patola

12. Arsoghna (Anti-haemorrhoidal)

1. Kutaja
2. Bilwa
3. Chitraka
4. Nãgara (Sunthi)
5. Ativisã
6. Abhayã (Haritaki)
7. Dhanavayãsaka
8. Dãru Haridrã
9. Vachã
10. Chavya

13. Kusthagna (Anti-Dermatosis, anti-Leprotic)

1. Khadira
2. Abhayã (Haritaki)
3. Amalaka
4. Haridrã
5. Aruskara (Bhallãtaka)
6. Saptaparna
7. Ãragwadha
8. Karavira
9. Vidanga
10. Jãti (Patra)

14. Kandughna (Anti-pruritic)

1. Chandana
2. Nalada (Usira)
3. Kritamãla (Ãragwadha)
4. Naktamãla (Karanja)
5. Nimba
6. Kutaja
7. Sarsapa
8. Madhuka (Madhuyasthi)
9. Dãruharidrã
10. Musta

15. Krimighna (Anthalmintic)

1. Aksiva (Sigru)
2. Maricha
3. Gandira (Kãndirã)
4. Kebuka
5. Vidanga

(Contd)

6. Nirgundi
7. Kinhi (Sweta Sirisa)
8. Swadamstrā(Gokshru)
9. Vrisaparnikā
10. Ākuparnikā (Musākarni)

16. *Visagna* (Anti-Poison)

1. Haridrā
2. Manjisthā
3. Suvahā (Tribrit)
4. Suksma Elā
5. Pālindi (Krisna Sārivā)
6. Chandana
7. Kataka
8. Sirisa
9. Sindhuvāra
10. Slesmātaka

17. *Stanya Janana* (Galactogogue)

1. Virana (Usira)
2. Sāli
3. Sastika
4. Iksuvālikā
5. Darbha
6. Kusa
7. Kāsa
8. Gundra
9. Itkata
10. Kattrinamula

18. *Stanyasodhana* (Galactodepurant)

1. Pāthā
2. Mahausadha (Sunthi)
3. Surodāru (Devadāru)
4. Musta
5. Murvā
6. Guduchi
7. Vatsakaphana (Indrāyana)
8. Kirātatikta (Chiraita)
9. Katurohini
10. Sārivā

19. *Sukrajanana* (Semen Promoting)

1. Jivaka

(Contd)

2. Risabhaka
3. Kākoli
4. Kshirakākoli
5. Mudgaparni
6. Māsaparni
7. Medā
8. Vriddharudha (Satavari)
9. Jatilā (Ucchata bheda)
10. Kulinga (Ucchata)

20. *Sukrasodhana* (Semen Depurent)

1. Kustha
2. Elavāluka
3. Katphala
4. Samudraphena
5. Kadambaniryāsa
6. Ikshu
7. Kāndeksu (Iksu-bheda)
8. Iksurasa
9. Vasuka
10. Usira

21. *Snehopaga* (Sub-oleative)

1. Mridvikā (Drāksā)
2. Madhuka (Madhuyasti)
3. Madhuparni (Guduchi)
4. Medā
5. Vidāri
6. Kākoli
7. Khirakākoli
8. Jivaka
9. Jivanti
10. Sālaparni

22. *Swedopaga* (Sub-diaphoretic)

1. Sobhānjanaka (Sigru)
2. Eranda
3. Arka
4. Vrischira (Varsābhu)
5. Punarnavā
6. Yava
7. Tila
8. Kulattha
9. Māsa

(Contd)

10. Badara

23. ***Vamanopaga*** **(Sub-Emetic)**

1. Madhu
2. Madhuka (Madhuyasti)
3. Kovidāra
4. Karbudāra
5. Nipa
6. Vidula (Hijjala)
7. Bimbi
8. Sanapuspi
9. Sadāpuspi (Arka)
10. Pratyakpuspi (Apāmārga)

24. ***Virechanopaga*** **(Sub-Purgative)**

1. Drāksā
2. Kāsmarya
3. Parusaka
4. Abhayā (Haritaki)
5. Āmalaka
6. Bibhitaka
7. Kuvala
8. Badara
9. Karkandhu
10. Pilu

25. ***Asthāpanopga*** **(Sub-Corrective Enemata)**

1. Trivrit
2. Bilwa
3. Pippali
4. Kustha
5. Sarsapa
6. Vachā
7. Vatsakaphala (Indrāyana)
8. Satapuspā
9. Madhuka (Madhuyasti)
10. Madanaphala

26. ***Anuvāsanopaga*** **(Sub-Unctuous Enemata)**

1. Rāsnā
2. Suradāru (Devadāru)
3. Bilwa
4. Madanaphala
5. Satapuspā

(Contd)

6. Vrischira (Varsãbhu)
7. Punarnavã
8. Swadamstrã (Gokshru)
9. Agnimantha
10. Syonãka

27. Sirovirechanapaga **(Sub-Errhines)**

1. Jyotismati
2. Kshavaka
3. Maricha
4. Pippali
5. Vidanga
6. Sigru
7. Sarsapa
8. Apãmarga Tandula
9. Swetã (Aparãjitã)
10. Mahaswetã (Sweta Sirisa)

28. Chardinigrahana **(Anti-Emetic)**

1. Jambu Pallava
2. Ãmra Pallava
3. Mãtulunga
4. Amla Badara
5. Dãdima
6. Yava
7. Sastika
8. Usira
9. Mrit
10. Lãjã

29. Trisnãnigrahana **(Anti-Dypsic)**

1. Nãgara (Sunthi)
2. Dhanvayãsaka
3. Musta
4. Parpataka
5. Chandana
6. Kirãtatikta
7. Guduchi
8. Hribera
9. Dhãnyaka
10. Patola

30. Hiccãnigrahana **(Anti-Hiccough)**

1. Sati

(Contd)

2. Puskaramula
3. Badarabija
4. Kantakārikā
5. Brihati
6. Vriksaruhā (Vandāka)
7. Abhayā
8. Pippali
9. Durālabhā
10. Kulirasringi (Karkatasringi)

31. Purisasangrahaniya (Intestinal Astringents)

1. Priyangu
2. Anantā (Sarivā)
3. Amrāsthi
4. Katwanga (Aralu)
5. Lodhra
6. Mocharasa
7. Samangā(Lajjālu)
8. Dhātakipuspa
9. Padmā (Bharangi)
10. Padmakesara (Kamala)

32. Purisavirajaniya (Faecal Depigmenter)

1. Jambu twak
2. Sallaki twak
3. Kacchurā (Dhanvayāsa)
4. Madhuka (Madhuyasti)
5. Sālmali
6. Srivestaka (Sarala-niryāsa)
7. Bhristamrit
8. Payasyā (Kshiravidāri)
9. Utpala
10. Tila

33. Mutrasangrahaniya (Anti-Diuretic)

1. Jambu
2. Ãmra
3. Plaksa
4. Vata
5. Kapitana
6. Udumbara
7. Aswattha
8. Bhallātaka
9. Asmantaka

(Contd)

10. Somavalka (Katphala)

34. Mutravirajaniya (Urinary Depigmentor)

1. Padma (Kamala)
2. Nalina
3. Saugandhika
4. Pundarika
5. Satapatra
6. Utpala
7. Kumuda
8. Madhuka
9. Priyangu
10. Dhātakipuspa

35. Mutravirechaniya (Diuretic)

1. Vriksādani (Vandāka)
2. Swadamstrā (Goksura)
3. Vasuka
4. Vasira (Apāmārga)
5. Pāsānabheda
6. Darbha
7. Kusa
8. Kāsa
9. Gundra
10. Itkata

36. Kāsahara (Anti-cough)

1. Drāksā
2. Abhayā (Haritaki)
3. Āmalaka
4. Pippali
5. Durālabhā
6. Sringi (Karkata Sringi)
7. Kantakārikā
8. Vrischira (Varsābhu)
9. Punarnavā
10. Tāmalaki (Bhumyamlaki)

37. Swāsahara (Anti-dyspneic)

1. Sati
2. Puskarmula
3. Amlavetasa
4. Elā
5. Hingu

(Contd)

6. Aguru
7. Surasã (Tulasi)
8. Tãmalaki (Bhumyãmalaki)
9. Jivanti
10. Candã

38. *Swãthuhara* (Anti-phlogistic)

1. Pãtalã
2. Agnimantha
3. Syonãka
4. Bilwa
5. Kãsmarya
6. Kantakãrikã
7. Brihati
8. Sãlaparni
9. Prisniparni
10. Gokshura

39. *Jwarahara* (Anti-pyretic)

1. Sãrivã
2. Sarkarã
3. Pãthã
4. Manjisthã
5. Drãksã
6. Pilu
7. Parusaka
8. Abhaya
9. Ãmalaka
10. Bibhitaka

40. *Sramahara* (Energy Compensator)

1. Drãksã
2. Khãjura
3. Priyãla
4. Badara
5. Dãdima
6. Phalgu
7. Parusaka
8. Iksu
9. Yava
10. Sastika

41. *Dãhaprasamana* (Refrigerant)

1. Lãjã

(Contd)

2. Chandana
3. Kāsmoryaphala
4. Madhuka
5. Sarkarā
6. Utpala (Nila)
7. Usira
8. Sārivā
9. Guduchi
10. Hribera

42. *Sitaprasamana* (Calefacient)

1. Tagara
2. Aguru
3. Dhānyaka
4. Sringavera (Sunthi)
5. Bhutika (Rohisa)
6. Vachā
7. Kantakāri
8. Agnimantha
9. Syonāka
10. Pippali

43. *Udardaprasamana* (Anti-allergic)

1. Tinduka
2. Priyāla
3. Badara
4. Khadira
5. Kadara
6. Arimeda
7. Saptaparna
8. Aswakarna
9. Arjuna
10. Asana

44. *Angamarda Prasamana* (Anti-bodyache)

1. Vidārigandhā (Sālaparni)
2. Prisniparni
3. Brihati
4. Kantakārikā
5. Eranda
6. Kākoli
7. Chandana
8. Usira
9. Elā

(Contd)

10. Madhuka

45. *Sulaprasamana* (Intestinal Anti-spasmodic)

1. Pippali
2. Pipplalimula
3. Chavya
4. Chitraka
5. Sringavera
6. Maricha
7. Ajamodā
8. Ajagandhā (Barbari)
9. Ajāji (Jiraka)
10. Gandira (Kāndira)

46. *Sonitasthāpana* (Haemostatic)

1. Madhu
2. Modhuka
3. Rudhira (Kunkuma)
4. Mocharasa
5. Mritkapāla
6. Lodhra
7. Gairika
8. Priyangu
9. Sarkarā
10. Lājā

47. *Vedanastāpana* (Analgesic)

1. Sāla
2. Katphala
3. Kadamba
4. Padmaka
5. Tumba (Alābu)
6. Mocharasa
7. Sirisa
8. Vanjula (Jalavetasa)
9. Elavāluka
10. Asoka

48. *Samgyastāpana* (Resusciative)

1. Hingu
2. Kaitarya (Katphala)
3. Arimeda
4. Vachā
5. Coraka

(Contd)

6. Vayahsthā (Brāhmi)
7. Gobmi (Bhutakesi)
8. Jalilā (Jatāmāmsi)
9. Palankasā (Guggulu)
10. Asokarohini (Katukā)

***49. Prajā-Sthāpana* (Anti-abortificient)**

1. Aindri
2. Brāhmi
3. Satavīryā (Satāvari)
4. Sahasravirya (Satāvari-bheda)
5. Amogha (Laksmanā)
6. Avyathā (Haritaki)
7. Sivā (Durvā)
8. Aristā (Nāgabalā)
9. Vatyāpuspi (Balā)
10. Viswaksenakāntā (Priyangu)

***50. Vayah-Sthapana* (Gerontologic)**

1. Amritā (Guduchi)
2. Abhayā
3. Dhātri
4. Yuktā (Rāsna)
5. Swetā (Aparājitā)
6. Jivanti
7. Atirasā (Satāvari)
8. Mandukaparni
9. Sthira (Sālaparni)
10. Punarnavā

B. SUSRUTA'S 37 GROUPS OF DRUGS

Suśruta arranged drugs in 37 groups, each group having indication in particular diseases. The drugs within brackets are the other names of the drugs. (SS. Su. 38).

Table 5.19

***1. Vidārigandhadi*—For *Pitta-Vāta*, Gaseous Tumour, Emaciation, Lassitude, Dyspnoea, Cough**

1. Vidārigandhā (Sālaparni)
2. Vidāri
3. Sahadevā (Atibalā)
4. Viswadevā (Nāgabalā)
5. Swadamstrā (Gokshru)
6. Prithakparni (Prisniparni)

(Contd)

7. Satavari
8. Sãrivã
9. Krisha Sãrivã
10. Jiraka
11. Risabhaka
12. Mahãsahã (Mãsaparni)
13. Ksudra Sahã (Mudgaparni)
14. Brihati
15. Kantakãri
16. Punarnavã
17. Eranda
18. Hamsapadi
19. Vrischikãli
20. Risabhi (Kapikacchu)

2. *Ãragwadhãdi*—For *Kapha,* Poison, Diabetes, Skin-diseases, Fever, Vomiting, Ulcers

1. Ãragwadha
2. Madana
3. Gopaghantã
4. Kutaja
5. Pãthã
6. Kantaki
7. Pãtalã
8. Murvã
9. Indrayava
10. Saptaparna
11. Nimba
12. Kuruntaka
13. Dãsi Kuruntaka
14. Guduchi
15. Chitraka
16. Sãrngestã
17. Karanja-dwaya
18. Putika (Chirabilwa)
19. Patola
20. Kirãtatikta (Chiraita)
21. Susavi (Kãravellaka)

3. *Varunãdi*—For *Kapha, Meda,* headache, Gaseous tumour, Internal abscess *Kaphahar, Medohar*

1. Varuna
2. Ãrtagala
3. Sigru

(Contd)

4. Madhu Sigru
5. Tarkāri
6. Mesasringi
7. Putika
8. Naktamāla
9. Morata
10. Agnimantha
11. Saireyaka dwaya (Pita-Nila)
12. Bimbi
13. Vasuka
14. Vasira (Apāmārga)
15. Chitraka
16. Satāvari
17. Bilwa
18. Ajasringi (Mesasringi)
19. Darbha
20. Brihati
21. Kantakāri

4. *Viratarwadi*—For *Vāta,* Calculi, Dysuria

1. Virataru
2. Sahachara-dwaya (Saireyaka, Pita and Nila)
3. Darbha
4. Vriksādani (Vandāka)
5. Gundra
6. Nala
7. Kusa
8. Kāsa
9. Asmabhedaka (Pāsānabheda)
10. Agnimantha
11. Morata
12. Vasuka
13. Vasira
14. Bhalluka (Syonāka)
15. Kurantikā
16. Indivara (Kuruntikābheda)
17. Kapotavankā
18. Swadamstrā (Gokshru)

5. *Sālasārādi*—For *Kapha, Meda,* Skin diseases, Diabetes, Anaemia

1. Sālasāra (Sāla)
2. Ajakarna
3. Khadira

(Contd)

4. Kadara
5. Kãlaskandha (Arimeda)
6. Karamuka (Lodhra)
7. Bhurja
8. Mesasringi
9. Tinisa
10. Chandana
11. Rakta chandana
12. Simsapã
13. Sirisa
14. Asana
15. Dhava
16. Arjuna
17. Tãla
18. Sãka
19. Naktamãla (Karanja)
20. Putika (Chirabilwa)
21. Aswakarna
22. Aguru
23. Kãliyaka

6. *Rodhrãdi*—For *Kapha, Meda,* Uterine disorders, Astringent, Anti-poison, Promotive for complexion

1. Rodhra (Lodhra)
2. Sãbara Rodhra
3. Palãsa
4. Kutannata (Syonãkã)
5. Asoka
6. Phanji
7. Kathphale
8. Elavãluka
9. Sallaki
10. Jingini
11. Kadamba
12. Sãla
13. Kadali

7. *Arkãdi*—For *Kapha, Meda,* Ulcers, Worms, Skin diseases

1. Arka
2. Alarka
3. Karanja-dwaya
4. Putika (Chirabilwa)
5. Nãgadanti

(Contd)

6. Māyuraka (Apāmarga)
7. Bhārangi
8. Rāsnā
9. Indrapuspi
10. Kshudrasweta (Aparājitā)
11. Mahāswetā (Sweta Sirisa)
12. Vrischikāli
13. Alavanā (Jyotismati)
14. Tāpasa Vriksa (Ingudi)

8. Surasādi—For *Kapha,* Worms, Respiratory diseases, Anorexia, Ulcers

1. Surasā (Tulasi)
2. Sweta Surasā
3. Phanijjhaka (Maruvaka)
4. Arjaka
5. Bhustrina (Rohisa)
6. Sugandhaka (Gandhatrina)
7. Sumukha (Rājikā)
8. Kālamola (Barbari)
9. Kāsamarda
10. Kshavaka
11. Kharapuspā
12. Vidanga
13. Katphala
14. Surasi
15. Nirgundi
16. Kulāhala (Mundi)
17. Undurukarnikā (Musākarni)
18. Phanji
19. Prāchibala (Kākajanghā)
20. Kākamāchi
21. Visamustika (Mahānimba)

9. Mustakādi—For *Meda, Sukra-dosha,* Diabetes, Piles, Anaemia, Calculi

1. Muskaka
2. Palāsa
3. Dhava
4. Chitraka
5. Madana
6. Vrisaka (Kutaja)
7. Simsapā
8. Vajravriksha (Snuhi)
9. Triphalā

(Contd)

10. *Pippalyâdi*—For *Kapha, Vâta,* Respiratory Disorders, Anorexia, Appetiser, Digestive, Gaseous Tumour, Colics

1. Pippali
2. Pippalimula
3. Chavya
4. Chitraka
5. Sunthi
6. Maricha
7. Gajapippali
8. Harenuka
9. Elã (Suksma elã)
10. Ajmodã
11. Indrayava (Kutaja-bija)
12. Pãthã
13. Jiraka
14. Sarsapa
15. Mahãnimba phala
16. Hingu
17. Bhãrangi
18. Madhurasã (Murvã)
19. Ativisã
20. Vacha
21. Vidanga
22. Katurohini (Katukã)

11. *Elãdi*—For *Vãta, Kapha,* Poison, Urticaria, Itching, Improves complexion

1. Elã (Suksma)
2. Tagara
3. Kustha
4. Jatãmãmsi
5. Dhyãmaka (Rohisa)
6. Twak
7. Patra
8. Nãgapuspa (Nagãkesara)
9. Priyangu
10. Harenuka
11. Vyãgranakha
12. Sukti (Nakha)
13. Candã
14. Sthauneyaka
15. Srivestaka
16. Coca

(Contd)

17. Coraka
18. Elavaluka
19. Guggulu
20. Sarjarasa
21. Turuska
22. Kunduruka (Sallāki-niryāsa)
23. Aguru
24. Sprikkā
25. Usira
26. Bhadradāru (Devadāru)
27. Kumkuma
28. Punnāga Kesara

12. *Vachādi*—To Purify breastmilk, Indigestion, diarrhoea-digestive

1. Vachā
2. Musta
3. Ativisā
4. Abhayā (Haritaki)
5. Bhadradāru (devadāru)
6. Nāgakesara

13. *Haridradi*—To Purify breastmilk, Indigestion, Diarrhoea, Digestive

1. Haridrā
2. Dāru Haridrā
3. Kalasi (Prisniparni)
4. Kutajabija (Indrayava)
5. Madhuka (Madhuyasti)

14. *Syāmādi*—As Purgative, Carminative, Anti-poison

1. Syāmā(Trivrit)
2. Mahāsyāmā (Vriddhadāru)
3. Trivrit
4. Danti
5. Sankhini (Aparājitā)
6. Tilwaka
7. Kampillaka
8. Ramyaka (Mahānimba)
9. Kramuka (Puga)
10. Putrasreni (Dravanti)
11. Gavāksi (Indravāruni)
12. Rājavriksha (Aragwadha)
13. Karanja
14. Putika
15. Guduchi (Chirabilwa)

(Contd)

16. Saptalã
17. Chagalãntri
18. Sudhã (Snuhi)
19. Suvarnaksiri

15. Brihatyãdi—For *Tridosha,* Digestive, Diuretic

1. Brihati
2. Kantakãri
3. Kutajaphala (Indrayava)
4. Pãthã
5. Madhuka

16. Patolãdi—For *Kapha, Pitta,* Anti-pyretic, Gastritis, Skin-disorders

1. Patola
2. Chandana
3. Kuchandana (Raktachandana)
4. Murvã
5. Guduchi
6. Pãthã
7. Katurohini (Katukã)

17. Kakolyãdi—For *Vata, Pitta, Rakta, Jivaniya, Brimhana, Vrisya, Stanyajanana*

1. Kãkoli
2. Kshirakãkoli
3. Jivaka
4. Risabhaka
5. Mudgaparni
6. Mãsaparni
7. Medã
8. Mahãmedã
9. Chinnaruhã (Guduchi)
10. Karkata Sringi
11. Tugãksiri (Vamsalochana)
12. Padmaka
13. Prapaundarika
14. Riddhi
15. Vriddhi
16. Mridwikã (Drãksã)
17. Jivanti
18. Madhuka

18. Usakãdi—For *Kapha, Meda,* Urinari calculi, Gaseous tumours

1. Usaka
2. Saindhava

(Contd)

3. Silājatu
4. Kasisa-dwaya
5. Hingu
6. Tutthaka

19. Sārivādi*—For *Rakta, Pitta,* Thirst, Burning sensation, *Pittajwara

1. Sārivā
2. Madhuka (Madhuyasti)
3. Chandana
4. Kuchandana (Raktachandana)
5. Padmaka
6. Kāsmaryaphala
7. Madhukapuspa
8. Usira

***20. Anjanādi*—For *Rakta, Pitta,* Anti-poison, Burning sensation**

1. Anjana
2. Rasānjana
3. Nāgapuspa (Nāgakesara)
4. Priyangu
5. Utpala (Nila)
6. Nalada (Usira)
7. Nalina Kesara (Kamala)
8. Madhuka

***21. Parusakādi*—For *Vāta,* Thirst, Anorexia, Dysuria**

1. Parusaka
2. Drāksā
3. Katphala
4. Dādima
5. Rājādana (Ksirni)
6. Katakaphala
7. Sākaphala
8. Triphalā

***22. Priyangwādi*—For *Pitta,* Astringent, Healing, Wounds**

1. Priyangu
2. Samangā (Lajjalu)
3. Dhātaki
4. Punnāga
5. Nāgapuspa (Nāgakesara)
6. Chandana
7. Kuchandana
8. Nāgakesara (Mocharasa)

(Contd)

9. Rasãnjana
10. Kumbhika
11. Srotanjana
12. Padma Kesara (Kãmalã)
13. Yojanãvalli (Manjisthã)
14. Dirghamulã (Dhanvayãsa)

23. *Ambasthãdi*—For *Pitta,* Astringent, Healing, Wounds

1. Ambastha (Mãchikã)
2. Dhãtaki Kusuma
3. Samangã (Lajjãlu)
4. Katwanga (Aralu)
5. Madhuaka
6. Bilwapesikã
7. Sãbara Rodhra
8. Palãsa
9. Nandivriksa
10. Padma kesara (Kamala)

24. *Nyãgrodhãdi*—For *Rakta, Pitta, Meda,* Burning Sensation, Uterine disorders, Astringent, Healing of wounds and fractures

1. Nyãgrodha
2. Udumbara
3. Aswattha
4. Plaksa
5. Madhuka
6. Kapitana
7. Kakubha (Arjuna)
8. Ãmra
9. Kosãmra
10. Chorakapatra
11. Jambu
12. Ksudra Jambu
13. Priyãlu
14. Madhuka
15. Rohini
16. Vanjula (Jalavestasa)
17. Kadamba
18. Badari
19. Tinduki
20. Sallaki
21. Rodhra (Lodhra)
22. Sãbara Rodhra

(Contd)

23. Bhallātaka
24. Palāsa
25. Nandivriksa

25. *Guduchyādi*—As Appetiser, Anti-pyretic, Anti-emetic, Thirst, Burning sensation

1. Guduchi
2. Nimba
3. Kustumburu (Dhānyaka)
4. Chandana
5. Padmaka

26. *Utpalādi*—For *Pitta, Rakta,* Burning sensation, Thirst, Poison, Vomiting, Palpitation, Loss of consciousness

1. Utpala
2. Rakta Utpala
3. Kumuda
4. Kuvalaya
5. Saugandhika
6. Pundarika
7. Madhhuka

27. *Mustādi*—For *Kapha,* Digestive, Uterine disorders, Purifies breast milk

1. Mustā
2. Haridrā
3. Dāru Haridrā
4. Haritaki
5. Āmlaki
6. Bibhitaka
7. Kustha
8. Himavati
9. Vachā
10. Pāthā
11. Katurohini (Katuka)
12. Sārngesta
13. Ativisā
14. Dravidi (Suksma Elā)
15. Bhallataka
16. Chitraka

28. *Triphala*—For *Kapha, Pitta,* Digestive, Beneficial for eye, Diabetes, Skin diseases, Intermittant fevers

1. Haritaki
2. Āmlaka

(Contd)

3. Bibhitaka

29. *Trikatu*—For *Kapha, Meda,* Skin diseases, Diabetes, Loss of appetite, Gaseous tumour, Nasal catarrh

1. Pippali
2. Maricha
3. Sringavera (Sunthi)

30. *Ãmlakyãdi*—For *Kapha,* Appetiser, Anti-pyretic, Beneficial for eye and semen, Pyrexia

1. Ãmlaki
2. Haritaki
3. Pippali
4. Chitraka

31. *Trapwãdi*—For Poison, Worms, Diabetes, Anaemia, Heart disease

1. Trapu
2. Sisã
3. Tãmra
4. Rajata
5. Krisna Loha
6. Suvarna
7. Lohamala

32. *Lãksãdi*—For *Kapha, Pitta,* Skin diseases, Worms, Chronic ulcers,

1. Lãksã
2. Ãrevata
3. Kutaja
4. Aswamãra (Karavira)
5. Katphala
6. Haridrã
7. Dãruharidrã
8. Nimba
9. Saptacchada (Saptaparna)
10. Malati (Jãti)
11. Trãyamãna

33. *Laghupanchamula*—For *Vãta, Pitta,* Tonic, Growth promoting

1. Gokshru
2. Brihati
3. Kantakãri
4. Prisniparni
5. Sãlaparni

34. *Mahat Panchamula*—For *Kapha, Vãta,* Appetiser

1. Bilwa

(Contd)

23. Bhallãtaka
24. Palãsa
25. Nandivriksa

25. *Guduchyãdí*—As Appetiser, Anti-pyretic, Anti-emetic, Thirst, Burning sensation

1. Guduchi
2. Nimba
3. Kustumburu (Dhãnyaka)
4. Chandana
5. Padmaka

26. *Utpalãdi*—For *Pitta, Rakta,* Burning sensation, Thirst, Poison, Vomiting, Palpitation, Loss of consciousness

1. Utpala
2. Rakta Utpala
3. Kumuda
4. Kuvalaya
5. Saugandhika
6. Pundarika
7. Madhhuka

27. *Mustãdi*—For *Kapha,* Digestive, Uterine disorders, Purifies breast milk

1. Mustã
2. Haridrã
3. Dãru Haridrã
4. Haritaki
5. Ãmlaki
6. Bibhitaka
7. Kustha
8. Himavati
9. Vachã
10. Pãthã
11. Katurohini (Katuka)
12. Sãrngesta
13. Ativisã
14. Dravidi (Suksma Elã)
15. Bhallataka
16. Chitraka

28. *Triphala*—For *Kapha, Pitta,* Digestive, Beneficial for eye, Diabetes, Skin diseases, Intermittant fevers

1. Haritaki
2. Ãmlaka

(Contd)

3. Bibhitaka

***29. Trikatu*—For *Kapha, Meda,* Skin diseases, Diabetes, Loss of appetite, Gaseous tumour, Nasal catarrh**

1. Pippali
2. Maricha
3. Sringavera (Sunthi)

***30. Ãmlakyãdi*—For *Kapha,* Appetiser, Anti-pyretic, Beneficial for eye and semen, Pyrexia**

1. Ãmlaki
2. Haritaki
3. Pippali
4. Chitraka

***31. Trapwãdi*—For Poison, Worms, Diabetes, Anaemia, Heart disease**

1. Trapu
2. Sisã
3. Tãmra
4. Rajata
5. Krisna Loha
6. Suvarna
7. Lohamala

***32. Lãksãdi*—For *Kapha, Pitta,* Skin diseases, Worms, Chronic ulcers,**

1. Lãksã
2. Ãrevata
3. Kutaja
4. Aswamãra (Karavira)
5. Katphala
6. Haridrã
7. Dãruharidrã
8. Nimba
9. Saptacchada (Saptaparna)
10. Malati (Jãti)
11. Trãyamãna

***33. Laghupanchamula*—For *Vãta, Pitta,* Tonic, Growth promoting**

1. Gokshru
2. Brihati
3. Kantakãri
4. Prisniparni
5. Sãlaparni

***34. Mahat Panchamula*—For *Kapha, Vãta,* Appetiser**

1. Bilwa

(Contd)

2. Agnimantha
3. Syonāka
4. Pātalā
5. Kāsmarya

***35. Valli Pachamula*—For Blood disorders, *Kapha,* Swelling, Diabetes, Semen disorders**

1. Vidāri
2. Sārivā
3. Rajani (Manjisthā)
4. Guduchi
5. Ajasringi (Mesasringi)

***36. Kantaka Panchamula*—For Blood disorders, *Kapha,* Swelling, Diabetes, Semen disorders**

1. Karamarda
2. Goksura
3. Saireyaka
4. Satāvari
5. Gridhranakhi (Himsrā)

***37. Trina Pachamula*—For *Rakta, Pitta,* Diuretic**

1. Kusa
2. Kāsa
3. Nala
4. Darbha
5. Kāndeksu

C. DRUGS GROUPING BY CHARAKA FOR PANCHAKARMA THERAPY

In addition to the 50 groups Charaka mentioned (CS. Vi. 8) further its Panchakarma therapy under five heads. They are:

1. ***Vamana*** *Madanaphala, Devadāli, Katutumbi, Karvi Torai, Kutajphal, Madanphal, Devadāli; Katutumbi* and *Karvi Nenuā* leaves and fruits.
2. ***Virechana*** *Trivritā, Amaltās, Tilvak, Snuhi, Saptala, Sankhini, Danti, Dravanti, Triphalā; Nalini, Kampillak, Vachā, Indrāyan, Swarnakshiri, Latākaranj, Pilu, Samudraphal.*
3. ***Āsthāpan*** *Pātalā, Agnimantha, Bilwa, Syonāka, Gambhari, Sālaparni, Prisniparni, Nidigdhikā, Balā, Goksura, Brihati, Eranda, Punarnavā, Yava, Kola, Kulathya, Guduchi, Madanphala, Bhutrina, Sneha, Lavana.*
4. ***Anuvasana*** *Asthāpan* like drugs are also used here.
5. ***Sirovirechana***
   (a) ***Phala*** *Apāmarga, Pippali, Marich, Vidanga, Sigru, Sirish, Dhānyak, Pilu, Jirak, Ajmodā, Vārtāki, Prithvikā, Elā, Harenukā*
   (b) ***Patra*** *Tulsi* many varieties, *Haredrā, Adrak, Muli, Lasun, Sarsapa*
   (c) ***Moola*** *Arka, Alarka, Nāgadanti, Vachā, Bhārangi, Sweta Aparājita, Jyotismati, Indrāyan, Vrischikāli, Ativsā*
   (d) ***Kanda*** *Haridrā, Adrak, Muli, Lasun*

(e) ***Puspa*** *Lodhra, Madanphal, Saptaparna, Nimba, Arka*
(f) ***Niryāsh*** *Devdāru, Aguru, Sallaki, Jingini, Asan, Hingu*
(g) ***Twak*** *Tejbal, Dālchini, Ingudi, Sobhānjan, Brihati, Kantakāri*

D. DRUGS ACTION (KARMA) ON VARIOUS SYSTEMS OF THE BODY

Karma There is a large number of actions mentioned in Āyurvedic texts. Some of the important actions are enumerated below:

Table 5.20

S.No.	Actions (Karma)	English Equivalent Terms	Example
Nervous System			
1.	Medhya	Intellect promoting and useful in mental disorders	Sankhapuspi
2.	Madakāri	Narcotic	Opium
3.	Samgyāsthāpana	Rescuscitative	Vachā
4.	Nidrājanana	Hypnotic	Sarpagandhā
5.	Vedanā-Sthāpana	Anālgesic	Guggulu
SENSE ORGANS			
1.	Chāksusya	Vision promoting	Triphalā
2.	Nasya	Errhines	Katphala
3.	Swedana	Diaphoretic	Vatsanābha
4.	Snehana	Oleation	Fat
5.	Ruksana	Roughening, Anti-lipid	Yava
6.	Varnya	Complexion-promoting	Sārivā
7.	Kandughna	Anti-pruritic	Nimba
8.	Kusthagna	Useful in skin disease	Khadira
9.	Udara-Prasamana	Useful in Urticaria, Anti-allergic	Tinduka
10.	Roma-Sanjanana	Hair-promoting	Bhringaraja
11.	Roma-Sātana	Depilatories	Orpiment
Digestive System			
1.	Āsyasravana	Sialogogue	Tumburu
2.	Trisnā-Nigraha	Anti-dypsic	Hribera
3.	Triptighna	Anti-Saturation	Adraka
4.	Rochana	Flavouring	Citrus fruits
5.	Dipana	Appetiser	Hingu
6.	Pāchana	Digestive	Chitraka
7.	Agnisādana	Anti-appetiser	Apāmārga-bija
8.	Vidāhi	Gastric-irritants	Red Pepper
9.	Vistambhi	Anti-carminative	Jack fruit
10.	Anulomana	Carminative	Yavāni

(Contd)

S.No.	Actions (Karma)	English Equivalent Terms	Example
11.	Vamana	Emetic	Madana Phala
12.	Chardi-nigrahana	Anti-emetic	Elā
13.	Rechana	Purgative	Trivrit
14.	Purisa-sangrahaniya	Astringent	Kutaja
15.	Purisa-virajaniya	Faecal depigmenter	Jambu
16.	Sula-Prasamana	Intestinal anti-spasmodic	Sunthi
17.	Āsthāpana	Corrective enemata	Pātalā
18.	Anuvāsana	Unctous enemata	Taila
19.	Krimighna	Anthelmantic	Vidanga
Circulatory System			
1.	Hridya	Cordials, Cardiotonic	Arjuna
2.	Sothahara	Useful in swellings, anti-inflammatory	Dasamula
Respiratory System			
1.	Kāsahara	Bronchial Sedatives	Drākṣā
2.	Swāsahara	Anti-dyspnic	Sati
3.	Chedana	Expectorant	Yavakshāra
4.	Hikkā-nigrahana	Anti-Hiccough	Mayurapiccha
5.	Kanthya	Beneficial for throat	Malayavachā
Urinary System			
1.	Mutra-Virechaniya	Diuretic	Trina Panchamula
2.	Mutra-Virajaniya	Urinary Depigmenter	Lotus flower
3.	Mutra-Samgrahaniya	Anti-Diuretic	Udumbara
4.	Asmari-Bhedana	Lithontriptic	Kulattha
5.	Mutra-Visodhana	Urinary Antiseptic	Kakkola
Reproductive System			
1.	Prajā-Sthāpana	Anti-abortifacient	Durvā
2.	Artava-janana	Emmenagogue	Kumāri
3.	Stanya-janana	Galactagogue	Satavari
4.	Stanya-sodhana	Galacto-depurent	Devadāru
5.	Vājikarana	Aphrodesiac	Kapikacchu
6.	Sukra-sodhana	Semen-depurant	Kustha
General Metabolism			
1.	Jwaraghna	Antipyretic	Kirātatikta (chiraita)
2.	Dāha-Prasamana	Refrigerant	Chandana
3.	Sita-Prasamana	Calefacient	Aguru
4.	Jivaniya	Vitalizer	Astavarga
5.	Balya	Tonic	Balā
6.	Sandhāniya	Healing	Madhuyasti

(Contd)

S.No.	Actions (Karma)	English Equivalent Terms	Example
7.	Rasāyana	Rejuvinative	Āmalaki
8.	Visaghna	Anti-poisonous	Sirisa
9.	Brimhania	Bulk-promoting	Māmsa
10.	Langhana	Bulk-reducing	Yava
11.	Sramahara	Energy compensator	Alcohol
12.	Angamarda Prasamana	Anti-bodyache	Laghu Panchamula
Specific Dhātus			
1.	Sonita-Sthāpana	Haemostātic	Nāgakesara
2.	Rakta-Prasādana	Blood Purifier	Manjisthā
3.	Medohara	Anti-lipid	Guggulu
Specific Doshas			
1.	Vāta-Samana	Vāta-pacifying	Rāsnā
2.	Vāta-Kopana	Vāta-vitiating	Kalāya
3.	Pitta-Samana	Pitta-pacifying	Usira
4.	Pitta-Kopana	Pitta-vitiating	Sarsapa
5.	Kapha-Samana	Kapha-pacifying	Trikatu
6.	Kapha-Kopana	Kapha-vitiating	Sarkarā
Srotas			
1.	Pramāthi	Channel-clearing	Maricha
2.	Abhisyandhi	Channel-Obstructing	Curd

E. COMPARATIVE STATEMENT OF THE GROUP OF DRUGS DESCRIBED BY CHARAKA AND SUSRUTA

Table 5.21

S.No.	Charaka	Susruta
1.	Jivaniya	Kākolyādi
2.	Brimhaniya	Vidārigandhādi
3.	Lekhaniya	Mustādi
4.	Bhedaniya	Syāmādi
5.	Sandhāniya	Ambastādi, Priyangvādi
6.	Dipaniya	Pippalyādi
7.	Balya	Laghu Panchamula
8.	Varnya	Elādi
9.	Kanthya	—
10.	Hridya	Parusakādi
11.	Triptighna	Patolādi
12.	Arsoghna	Muskakādi

(Contd)

S.No.	Charaka	Susruta
13.	Kusthagna	Āragvadhādi, Sālasārādi Arkādi, Lāksādi
14.	Kandughna	Elādi, Āragvadhādi
15.	Krimighna	Surasādi, Lāksādi
16.	Visaghna	Rodhrādi, Āragvadhādi, Arkādi, Anjanādi
17.	Stanyajanana	Kākolyadi
18.	Stanyasodhana	Mustādi, Vachādi, Haridrādi
19.	Sukrajanana	Kākolyādi
20.	Sukrasodhana	Valli Panchamula
21.	Snehopaga	—
22.	Swedopaga	—
23.	Vamanopaga	—
24.	Virechanopaga	Parusakādi
25.	Āsthāpanopaga	—
26.	Anuvāsanopaga	
27.	Sirovirechanopaga	—
28.	Chardinigrahana	Nyogrodhādi
29.	Trisnānigraha	Guduchyādi, Utpalādi, Sārivādi, Parusakādi
30.	Hikkānigrahana	Brihatyādi, Vidārigandhādi
31.	Purisa-Sangrahaniya	Rodhrādi, Priyangwādi, Ambasthādi
32.	Purisa-Virajniya	Nyagrodhādi
33.	Mutra-Samgrahniya	Nyagrodhādi, Sālasārādi
34.	Mutra-Virechaniya	Trina Panchamula, Viratarwādi
35.	Mutra-Virajaniya	Utpalādi
36.	Kāsahara	Vidārigandhādi
37.	Swāsahara	Pippalyādi
38.	Sothahara	Dasmulādi
39.	Jwarahara	Sārivādi, Patolādi, Āmalakyādi
40.	Sramahara	Parusakādi
41.	Dāha-Prasamana	Sārivādi, Utpalādi, Anjanādi
42.	Sita-Prasamana	Pippalyādi, Utpāladi
43.	Udara-Prasamana	Sālasārādi
44.	Angamarda-prasasamna	Vidārigandhādi
45.	Sula-Prasamana	Pippalyādi
46.	Sonitasthāpana	Priyangwādi, Anjanādi
47.	Vedanāsthāpana	Rodhrādi
48.	Samgyāsthapana	Priyangwādi
49.	Prajasthāpana	Vidarigandhādi, Kākolyādi
50.	Vayahastāpana	Kākolyādi, Vidārigandhādi
51.	Vamana	Urdhwabhāgahara
52.	Virechana	Adhobhāgahara
53.	Sodhana	Ubhayatobhāgahara

F. SOME GROUPS OF DRUGS BASED ON PHYSICAL QUALITIES WIDELY USED FOR THERAPEUTIC PRACTICE

Table 5.22

1.	Triphalā	Haritaki, Bibhitaka, Āmalaki
2.	Trikatu	Sunthi, Pippali, Maricha
3.	Trijāta	Twak, Elā, Patra
4.	Chaturjāta	Trijāta and Nāgkesara
5.	Trimada	Vidanga, Musta, Chitraka
6.	Chaturbija	Methikā, Chandrasura, Kālājāji, Yavāni
7.	Panchakola	Pippali, Pippalimula, Chavya, Chitraka, Sunthi
8.	Panchavālkala	Bark of—Nyāgrodha,Udumbara, Aswatta, Plaksa, Pārasisa
9.	Panchapallava	Āmra, Jambu, Kapittha, Bijapura, Bilwa
10.	Trinapachamula	Kusa, Kāsa, Nala, Darbha, Iksu
11.	Panchatikta	Vāsā, Guduchi, Nimba, Kantakāri, Patola
12.	Brihat Panchamula	Bilwa, Pātalā, Agnimantha, Syonāka, gāmbhāri
13.	Laghu Pachamula	Sālaparni, Prisniparni, Kantakāri, Goksura, Brihati
14.	Dasamula	Brihat Panchamula and Laghu Panchamula
15.	Astavarga	Jivaka, Risabhaka, Medā, Mahāmedā, Kākoli, Kshirkākoli, Riddhi, Vriddhi or four sustitutes said by Bhāvamisra for above eight are: Satāvari, Vidāri, Aswagandhā, Vārāhi.

G. DRUGS AND FOODSTUFFS HAVING PREDOMINANT RASAS

Here, some of the *Dravyas* (substances) have been enumerated having predominant flavours in each of types of *Rasas* (tastes).

Table 5.23

S.No.	Botanical Names	Common Names
I. The Madhura Rasa (Sweet Taste)		
1.	Agropyron repens	Couch grass
2.	Althea officinalis	Marshmallow
3.	Asparagus racemosus	Satāvari
4.	Cocos nucifera	Coconut
5.	Glycyrrhiza glabra	Yastimadhu
6.	Hordeum vulgare	Barley (Java)
7.	Ipomea paniculātā	Vidāri
8.	Malva silvestris	Wild mallow
9.	Oryza sativa	Rice (Sāli, chāl)
10.	Phoenix Sylvestris	Dates (Khajura)
11.	Panicum Miliaceum	Millet
12.	Saccharum Officinalis	Sugercane (Ikshu)

(Contd)

S.No.	Botanical Names	Common Names
13.	Secale Cereale	Rye
14.	Sida Cordifolia	Balā
15.	Triticum Vulgare	Wheat (Gehu)
16.	Verbascum Thapsus	Mullein
17.	Vitis Vinifera	Drākshā
18.	Zea Mays	Maize
19.	Clarified Butter	Ghee
20.	Butter	Makkhan
21.	Flesh Foods	Māmsha Āhār
22.	Milk	Dugdha
II. The Amla Rasa (Sour Taste)		
1.	Citrus aurantifolia	Lime (Nimbu)
2.	Emblica officinalis	Amlaki
3.	Hippophae rhamnoides	Sea Buckthorn
4.	Magnifera indica	Mango (Āmra)
5.	Oxalis acetosella	Woodsorrel (Chāngeri)
6.	Punica granatum	Dādima (Anār)
7.	Rosa canina	Dog Rose
8.	Rubus idacus	Raspberry
9.	Rumex acetosa	Sorrel
10.	Tamarindus indica	Tamarind (Imli)
11.	Yoghurt	Dahi
III. The Lavana Rasa (Salty Taste)		
1.	Rock salt	Saindhava Lavana
2.	Sea Salt	Samudra Lavana
3.	Sodium carbonate + Amm. chloride and other Salts	Sambhāra or Romaka Lavana
4.	Rock Salt + Sulphur + Ammonium + Potassium	Bida Lavana or Nausādar
5.	Contains Iron, Sulphur, etc., with Salt	Souvārchala Lavana or Kālā namak
IV. The Katu Rasa (Pungent Taste)		
1.	Allium cepa	Onion (Palandu, Peyāj)
2.	Allium sativum	Garlic (Lahasan)
3.	Anthriscus cerefolium	Garden Chervil
4.	Armoracia rusticara	Horse Radish
5.	Brassica nigra	Black Mustard (Rājikā)
6.	Capsicum annuum	Chilli (Mirchi)
7.	Cymbopagon Specis	Indian Lemon grass

(Contd)

S.No.	Botanical Names	Common Names
8.	Embelia ribes	Vidanga
9.	Ferula narthex	Asafoetida (Hing), Stinking fennel
10.	Melissa officinalis	Lemon balm
11.	Myristica fragrans	Nutmeg (Jāiphala, Jāvitri)
12.	Malricaria chamomilla	Camomile
13.	Origanum vulgarae	Marjorum
14.	Oscimum sanctum	Holy basil (Tulsi)
15.	Piper betle	Betal (Pān)
16.	Piper cubeba	Cubeb pepper (Chavya)
17.	Piper longum	Long Pepper (Pippali)
18.	Piper nigrum	Black Pepper (Marich)
19.	Plumbago ceylanica	Chitraka
20.	Saussurea lappa	Indian Costus (Kustha)
21.	Satureia hortensis	Summer savary
22.	Semicarpus anacardium	Bhallātaka
23.	Zingiber officinalis	Ginger (Adrak, Sauth)
V. The Tikta Rasa (Bitter Taste)		
1.	Aconitum ferox	Vatsanabha (Vish)
2.	Aconitum heterophyllum	Ativishā (Atis)
3.	Acorus calamus	Vachā
4.	Adhatoda vasica	Vasāka (Adusā)
5.	Aloe barbadensis	Aloe (Ghritakumari)
6.	Aquilaria agallocha	Agaru
7.	Azadirachta indica	Neem
8.	Alstonia scholaris	Saptaparna
9.	Bacopa monieri	Brāhmi
10.	Centella asiatica	Mandukparni
11.	Calotropis gigantica	Arka (Ākanda)
12.	Coriandrum sativum	Coriander (Dhaniā)
13.	Curcuma longa	Turmeric (Haridrā, Haldi)
14.	Convolvulus pluricaulis	Sankhapuspi
15.	Erythrina indica	Pāribhadraka
16.	Holarrhena antidysenterica	Kutaja
17.	Hydrocarpus wightiana	Tuvaraka
18.	Jasminum grandiflorum	Jāti
19.	Nardostachys jatāmānsi	Jatāmānsi
20.	Picrorhiza kurroa	Kutki (Katuka)
21.	Psolanum indicum	Brihati
22.	Psolanum xanthocarpium	Kantakāri
23.	Psoralea corylifolea	Bābchi

(Contd)

S.No.	Botanical Names	Common Names
24.	Rawolfia serpentina	Sarpagandhã
25.	Strychnos nux-vomica	Kuchlã (Kupilu)
26.	Valeriana wallichi	Indian valerian (Tagara)
27.	Vetivera zizanoides	Khaskhas grass (Ushira)

VI. The Kasãya Rasa (Astringent Taste)

S.No.	Botanical Names	Common Names
1.	Acacia Catechu	Bãbula
2.	Aegle marmelos	Bel (Bilwa)
3.	Albezzia lebbek	Sirish
4.	Boswellia serrata	Shallaki
5.	Bombax malabaricum	Chotton tree (Shãlmali)
6.	Commiphora mukul	Gum of Myrrh (Guggulu)
7.	Droxylum indicum	Syonãka
8.	Ficus bengaliensis	Bargad
9.	Ficus racemosa	Udumbara
10.	Ficus religiosa	Aswattha
11.	Gamelina arborea	Gamhara tree
12.	Hypericum perforatum	St. John's wort
13.	Juglans regia	Walnut (Akhrot)
14.	Potentilla erecta	Tormantil
15.	Premma integrifolia	Angnimantha (Arni)
16.	Quercus robur	Oak
17.	Salvia officinalis	sage
18.	Sempervivum tectorum	Houseleek
19.	Stereospermum suaveolens	Patola
20.	Terminalia arjuna	Arjuna
21.	Terminalia belerica	Bibhitaka (Baherã)
22.	Terminalia chebula	Haritaki (Harar)
23.	Vaccinium myritillus	Whartle berries
24.	Woodfordia fructicosa	Dhãtaki
25.	Honey	Madhu

6

Pathology in Ãyurveda

In this chapter of Pathology, the following aspects related to the causative factors of a disease and their spread in the body, the Pathogenesis will be discussed.

1. Definition of a Disease (*roga*)
2. Disease in the body
3. Classification of disease
4. The role of *Doshas*, the Bioregulating Principles in diseases
5. Causative factors of disease
6. Pathogenesis of a disease or *sat-kriyãkãlas*, the six stages of the spread of a disease
7. The real cause of a disease (spiritual aspect)

1. DEFINITION OF A DISEASE (ROGA)

It has already been discussed that when the three *Doshas* are in equilibrium, the body is in good health, but when the *Doshas*, the Bioregulating Principles get deranged, they produce disease. Charaka said, disease (*Roga*) in the body is caused due to disequilibrium of the *Dhãtus* (CS. Su. 9). It causes pain and discomfort. Susruta said, anything that produces pain and discomfort in a person may be called a disease (SS. Su. 1).

Charaka further said, the body is a conscious being, a conglomeration of the five *Bhutas* in different modified forms and functioning properly as long as these *Panchabhuta* components are in right proportion. When in this body the *Dhãtu* gets disbalanced, then it suffers pain or even destruction.

The increase or decrease in proper quantity of a *Dhãtu*, either in its entirety or in proportions, constitutes a disturbance of the equilibrium of the *Dhãtus* (CS. Sã. 6).

The natural unbalanced condition of the *Dhãtus* due to some temporary excess or reduction of some of them at particular hours of the day and night, e.g., during and after meals should not be regarded as a disease or *Dhãtu Vaisamya*, because the degree of inequilibrium is so less that it can safely be included in the healthy condition of *Dhãtu Sãmya* (equilibrium).

2. DISEASE IN THE BODY

Charaka, Susruta and Vāghbhata have mentioned diseases in their classical texts but in scattered order in various chapters. All aspects of a disease are not explained in one place.

Diseases and disorders having one predominant *Dosha* as 80 types of *Vāta,* 40 types of *Pitta* and 20 types of *Kapha* are enumerated in the classical texts. Sārangadhara also enumerated in his text, the same number, except a few, all the names of diseases and disorders are different from what Charaka mentioned.

In the later period, the scattered material was arranged at one place by *Mādhava* in his diagnostic textbook *Mādhava-Nidāna.* Similar pattern was followed by *Chakrapāni* in his therapeutic book *Chakradatta.* Later, other writers too followed the example which can be observed in *Sārangadhara-Samhitā, Yogaratnākara, Bhaisajya-Ratnāvali,* etc. In *Sārangadhara-Samhitā,* the diseases and their various types were enumerated in detail in a separate chapter. In the above texts the grouping of diseases and disorders are quite ancient and by keeping in view the great advancement of the medical sciences, the diseases and disorders mentioned in Āyurveda need to be regrouped on modern lines under the heading of the various systems functioning inside the body. By doing this the study of diseases will become more easy.

3. CLASSIFICATION OF DISEASES

Diseases are classified primarily as bodily (*Sārira*) and mental (*Mānasika*). These are also classified as those due to internal causes (*Nija*) and due to external causes (*Āgantuka*) due to injury, etc. Besides this there are various other methods of classification, i.e., whether a disease is curable or not or according to the degree of aggravation of the *Doshas,* etc.

Susruta gave an exhaustive classification (SS. Su. 24). His treatise being mainly one on surgery, first classified diseases into two broad groups as Surgical and Medical. He then said, that anything which afflicts the body including mind is a disease and then goes on to explain that this affliction or pain may be of three types.

(i) Adhyātmika

This is physical and is of three types. They are as follows:

(a) ***Ādi-bala-pravritta*** It originates from any primary inherent cause. These diseases, such as leprosy, piles, etc., are due to an inherent defect in the spermatozoon or ovum of the respective parents. This type naturally falls into two sub-divisions according to the original source of the defect (i) in the father; or (ii) in the mother. These diseases are considered as hereditary.

(b) ***Janma-bala-pravritta*** It is congenital. It is due to any improper conduct on the part of the mother regarding food and hygiene during the period of gestation. In such cases, the child may be born blind or deaf or dumb or deformed or may be a cripple or a cretin. There are also two sub-divisions in this type on the basis of the disease. It may be due to *Rasa*, that is to say, due to any improper intake of food or drug and due to unmindfulness on one's part to the hygienic principles during gestation. These diseases occur in spite of the fact that there had been no defect in the germ cells of either of the parents.

(c) ***Dosha-bala-pravritta*** These are those that have originated directly by the derangement of any of the *Dosha*. Could be due to improper diet, unhealthy habits or due to one disease being produced by another

(such as consumption produced ultimately from cough). This is also classified under two heads, those which have their origin in the stomach or in the intestines. These are again sub-divided as (i) bodily, produced by the *Doshas, Vāyu, Pitta* and *Kapha* and (ii) mental, produced by the mental *Doshas, Rājas* and *Tāmas*.

(ii) Ādhibhautika

This is due to any disturbance in the physical environment of a man. Only one type is known, *Samghāta-bala-pravritta.*

(a) ***Samghāta-bala-pravritta*** These are those that are caused by any extraneous cause. These are of two kinds: (i) Injuries caused by an instrument or (ii) by any ferocious or poisonous animal.

(iii) Ādhidaivika

This is due to any act of God or Nature. This has also three varieties. They are as follows:

(a) ***Kāla-bala-pravritta*** This is a seasonal type. These are produced by the successive changes of the six seasons in a year or by any variation in the atmospheric temperature or humidity. This type is sub-divided into two heads, depending on whether the season exhibits its normal features or the contrary.

(b) ***Daiva-bala-pravritta*** This is providential type. These diseases include those that are produced by any curse or divine wrath or brought about by any charm, spell or by infection. These are of two types: (i) those produced by such things as lightening and (ii) those produced by any malignant influence. They may also be classified as those produced by association or by accident.

(c) ***Swabhāva-bala-pravritta*** The natural type, such as hunger, thirst, old age, death, sleep, etc. These may be classified as (i) timely and (ii) untimely. The first type comes in due course of time, even when one strictly observes hygiene. The second type is due to one's negligence of these rules.

So we find, according to Susruta, all diseases are included in the above seven categories.

4. THE ROLE OF DOSHAS, THE BIOREGULATING PRINCIPLES IN DISEASES

No disease can ever be caused without the association of *Vāyu, Pitta* and *Kapha.* Susruta following the Sāmkhya view, gave the analogy that just as all the manifested phenomena of the universe are but modifications of the three *Gunas* (*Sattwa, Rājas* and *Tāmas*), so also the three doshas are at the root of all the varieties of diseases (SS. Su. 24).

Charaka also said that all kinds of *Nija* diseases are produced by *Vāyu, Pitta* and *Kapha* and by nothing else. (The term *Nija* is used here to exclude the *Āgantuka* variety in which there is pain first due to any extraneous cause and then affection of the *Tridosha* afterwards)—Just as a vulture, however much it may try, cannot overstep its own shadow, so also a disease which is produced by the imbalance of the *Dhātus*, can never be disassociated from *Vāyu, Pitta* and *Kapha* (CS. Su. 19).

When Charaka and Susruta say all kinds of diseases, they mean all diseases whether mentioned by them in their respective treatises or not. Charaka made this very clear when he said (CS. Su. 18) that nobody need be ashamed if he cannot give a name to a particular disease, because it is impossible to give a name to every disease. It is only the more prominent and common diseases that are given individual names. The only thing to be remembered is that it

is the deranged *Doshas* which produce the different diseases according to the particular causes of derangement and the particular places of the affected.

In Āyurveda, the knowledge of different names of diseases is for practical use only. It is not essential for any course of treatment. Susruta also said (SS. Su. 35) that as no disease can be produced without association of the *Doshas*, so the diseases which are not mentioned by any name should be treated according to the particular symptoms characterizing the particular *Dosha* affected.

It is the combination of the deranged *Doshas*, the Bioregulating Principles with the different *Dhātus* (tissues) and *Malas* (excretas) of the body or the particular location of the body affected or the particular causes aggravating the *Doshas* that give rise to the different varieties of diseases.

When a *Dhātu* is very severely affected by a *Dosha*, the disease thus produced is named after the particular *Dhātu*. So it may be said that the disease is *Rājasa* or *Sonitaja* or *Māmsaja* and so on (SS. Su. 24).

Charaka explained when to expect a disease and when not. He said (CS. Ni. 4) that, when the *Dusyas* (the *Dhātu* and *Upa-dhātu* which are vitiated by the *Doshas*) are mutually connected together, there is production of a disease. When there is no successive connection between the three, there is no disease. And when the connection is not thorough or complete or the causes are weak, there is production of disease of a mild type, all symptoms not being manifested. Here we observe the interesting fact that the *Nidānas* cannot directly vitiate the *Dhātus*; they must first vitiate the *Doshas* and it is these which then affect the *Dhātu* and thus bring about a disease, the *Roga*. The *Nidānas* may be the indirect causes of a disease, but it is the *Doshas*, the Bioregulating Principles, which are the direct and ultimate cause of a disease.

5. CAUSATIVE FACTORS OF A DISEASE

These are causes for derangement of *Doshas*. Charaka described the general causes which produce disease. In *Nidānasthāna* he enumerated in detail the specific causes which aggravate the particular *Dosha* to cause a particular disease. Susruta also enumerated the specific causes which aggravate specific *Doshas* (SS. Su. 21).

Charaka said that the causes of disease, both in body and mind may be briefly stated as of three kinds. They are excessive and wrongful conjunction or total lack of conjunction or use of (i) weather characteristics, (ii) actions of intelligence, (iii) sense objects, etc. (CS. Su. 1 and 2). Later on he said (CS. Vi. 6 Cf. CS. Ni. 1) that the causes of derangement of the two kinds of *Doshas* (body and mind) are of three varieties. So the three factors which imbalance the *Doshas*, are as follows:

A. Asātmendriārtha-Samyoga

It is the improper and harmful conjunction of the five sense objects with their respective senses. The sound, touch, colour, taste and smell are the five sense-objects corresponding to the five senses. Whenever there is an *Asātmya* (non-agreeable) or harmful conjunction between a sense and its object, there is a potential cause of disease. Harmful conjunction means either excessive or wrongful conjunction or no conjunction at all. Here overstimulation or understimulation of

the sense organs takes place. Let us take the example of the sense-objects having excessive use, non-use and wrongful use of the sense-objects.

(a) ***Excessive use of sense-objects*** Overexposure to very loud sounds such as the roar of thunder or the beating of drums, etc. are examples of *Atiyoga* or the excessive use of the sense of hearing. Similarly, too much use or handling of very cold or very hot things, too much bathing or massage, too much seeing of very bright objects or of powerful light, too much use of the six *rasas* and excessive smelling of very strong or pungent or putrid substances are examples respectively of the excessive association of the senses of touch, sight, taste and smell.

(b) ***Non-use of sense-objects*** Not to hear any kind of sound at all, not to touch anything either hot or cold, not to have a sight of any kind of sense object, not to have a taste of any of the six *rasas* and not to smell anything at all are *Ayoga* or non-use of the senses.

(c) ***Wrongful use of sense-objects***

(i) Hearing of harsh, disagreeable, fearful sounds or mournful news.

(ii) To have touch of poisonous air or stormy winds, to be exposed to any untimely advent of hot or cold weather or to be struck by anything hard.

(iii) To see extremely fine and minute object or objects very near to the eye or at a very great distance, to see any loathsome, dreadful or hostile objects or a distorted vision.

(iv) To have to recourse to any kind of taste in excess or to exclude one altogether or take very little of one or to include in one's diet articles of food whose combination is harmful.

(v) To smell putrid, poisonous, nauseating things are examples of *Mithyāyoga* or wrongful conjunction of the five senses with their respective objects.

B. Pragyāparādha

Pragyāparādha has been described as the *Ayoga, Atiyoga* and *Mithyāyoga* of *Karma* or action which has been defined as any effort of the body, mind and speech by Charaka (CS. Su. 11). Later, Charaka defined *Pragyāparādha* as any harmful or undesirable action perpetrated by anybody, who has lost his understanding, intellect or memory (CS. Sā. 1).

Excessive activities of speech, mind and body are *Atiyoga* and their non-activities are *Ayoga* of these three.

Suppression of the natural urges. When there is no desire for them, excessive sexual indulgence, holding up one's breath, excessive massage or any undue physical exertion are examples of *Mithyāyoga* of the body.

Speaking anything harsh or unkind or quarrelling, abusing, etc., are examples of wrongful activities of speech.

Fear, grief, anger, avarice, hallucination, jealousy, etc. are examples of the wrongful activities of the mind. Here misuse of the mind, sense organs and the neglect of the body takes place.

C. Parināma

Parināma is another name of *Kāla* or time (CS. Su. 12). The year is divided into the different seasons, *Kāla*. The main climatic characteristics of these seasons have been identified.

Parināma is the improper functioning of the climatic changes brought about by the different seasons. When a particular season manifests its own characteristic feature of cold, heat or rain in excessive proportion, we have *Atiyoga* of *Kāla;* when these characteristics are deficient we have *Ayoga* of *Kāla;* and when a season manifests symptoms which are opposite to its own

special characteristics, we have *Mithyāyoga* of *Kāla*. Here the influence of time such as day and night, seasons of the year, age of the individual takes place.

Whatever may be the cause of any possible disease, it must fall under one or the other of the three heads.

6. PATHOGENESIS OF A DISEASE OR *SAT-KRIYĀKĀLAS*

Āyurveda distinguishes six stages in the course of an illness. The Āyurvedic physician sets to work in stage one, two or three, naturally, the adoption of early measures greatly increases the chance of recovery. In these first three stages of disease development, 'Radical' therapy (*Samsodhana*) is still practicable, but once the fourth stage, which rapidly gives way to the fifth is reached, the treatment becomes 'palliative' (*Samsamana*). The disease must then take its course. All that can be done is to alleviate it and to accelerate the healing process.

In case of trauma, and other exogenous causes, the pathological condition is caused first and the derangement of the *Doshas* follow, leading to further similar changes.

Sat-kriyākāla is the name given to the six types of disease by Susruta (SS. Su. 1). These stages are described in Table 6.1.

Table 6.1 The *Sat-Kriyākālas*: Six Steps of a Disease

Stages	*Stages of Pathogenesis*	*Symptoms*
1st Stage Sanchaya (Accumulation)	Sanchaya is the first stage of accumulation. In the initial stage there is an accumulation of a single Dosha in its own place or an accumulation of several Doshas in their own locations, so, (i) Vāta gets increased in the colon and rectum. (ii) Pitta gets increased in the small intestine, liver and pancreas. (iii) Kapha gets increased in the stomach. The factors which cause respective accumulations of the Doshas, the Bioregulating Principles have the same properties as the Doshas are concerned, e.g., (i) heat strengthens Pitta and (ii) cold strengthens Vāyu and Kapha	Sanchaya can be understood through certain symptoms: Vāta accumulation creates a sensation of fullness in the lower part of the abdomen, inflates it and disturbs peristalsis. Pitta accumulation creates a feeling of heat without a measurable rise in the body temperature and is responsible for loss of natural healthy glow. Kapha accumulation gives a feeling of heaviness in the limbs associated with weakness and lethergy. Vāta gives symptoms of weakness, dryness of the body, desires for warmth and hot articles, flatulence or constipation. Pitta gives symptoms of burning sensation, bitter taste in mouth, yellowness of the skin, increased anger, acidity in the stomach. Kapha gives symptoms of pallour, bloating loss of appetite with weakened digestion.

(Contd)

Stages	*Stages of Pathogenesis*	*Symptoms*
2nd stage Prakopa (Excitation)	Prakopa is the stage of excitation. Roughly translated, Prakopa means exceptional aggravation. There is irritation of one or more Doshas which were accumulated in the previous stage, Sanchaya. The excited Doshas are still in their original places, there has been no spread yet. Causes of the development of a disease from the first to the second stage are such factors as dietary deficiencies, physical exertion, the influence of the season and clouds, mild psychological disturbances like indigestion and psychic irritation. It is even easy to remove Doshas at this stage.	Prakopas special symptoms are easier to recognize than those of the first stage: Increased Vāta causes abdominal pain accompanied by gurgling sounds. Increased Pitta causes a burning sensation, hot flushes, heart burn and pronounced thirst. Increased Kapha causes nausea and loss of appetite.
3rd stage Prasāra (Spreading)	Prasāra is the stage of spreading. In this stage Vāta is the dynamic principle and is able to move the two other Doshas and diffuse them through the body. 13 modes of spreading in total are recognized, i.e., spreading of Doshas and of the blood in every possible combination takes place. So, Charaka defined blood as the active vehicle and Susruta counted blood amongst the Doshas as a fourth Bioregulating Principle.	Increased spreading of Doshas show symptoms: The Vāta spread is seen in a swollen abdomen, colicky pain in the abdomen, painful defecation. The Pitta spread manifests itself in a feeling of heat and indigestion associated with a bad body odour, even diarrhoea. The Kapha spread is followed by digestive disorders, vomiting and depression frequently.
4th stage Sthāna Samsraya (Localization)	Sthāna Samsraya is the stage of localization. The Doshas which are fermented and diffused reach certain tissues that are congested by them.	In this stage, the first clear symptoms of illness appear and the trouble cannot be ignored. Allopathic physicians call this as prodromal stage.
5th stage Vyākti (Manifestation)	The fifth stage is Vyātki, here fourth stage quickly leads to this stage.	Here the symptoms become so clear that one is able to measure them and the signs and symptoms clearly come out.
6th stage Bheda (Complications)	Finally Bheda is the stage of complications.	Further course of the disease is decided here. The possibilities are secondary disease or a chronic condition or death.

7. THE REAL CAUSE OF DISEASE (SPIRITUAL ASPECT)

A *Roga* or disease begins in the body with a disturbance of the Bioregulating Principles, the *Doṣhas* in the body. The *Doshas* are always in conflict due to psychic reasons which can be as follows:

1. Spiritual realities or the Divine, such as ignorance, atheism, hypocrisy, blasphemy, etc.
2. Other reasons such as greed, egoism, pride, aggressiveness, untruthfulness, discrimination, arrogance, racism, abuse, caste, repression and so on.
3. Nature (with its animals and plants) such as neglect, carelessness, materialism, greedy and destructive exploitation, environmental destruction, etc.
4. Ourselves at present having fear, feeling of guilt, cowardliness, etc.
5. Our past *karmas*—a consequence of past actions (what we should not have done).

All these can be related to *Duksha* or psychic pain. Commonly one does unto others will be done unto him also. One's actions hit back to oneself, sometimes in the same way as we did it and sometimes in a different but representative way.

We attract diseases and accidents according to our attitude and according to our way of thinking. The primary path to health is therefore, not simply caring for the balance of the *Doshas*, but much more depends on the avoidance of conflict. This is the reason why *Yoga* practice is very essential along with the proper care of the diet (*Āhāra*) and follow up daily and seasonal rules (*Vihāra*) for the maintenance of good health.

The *Sāmkhya* theory of creation clearly shows that all things are emerging from one source and we are all part of it. The way to reach peace is a *Yogic* way of love and compassion. According to Āyurveda, the cause of all disease is *Karma* (action) of past lives.

The ultimate aim of Āyurvedic Therapy is salvation (*Moksha*). Man's ultimate goal in life should be to complete the pinnacle of universal consciousness or God, beyond which nothing exists in this universe. This is the concept of final liberation or *Moksha*.

Any path of spiritual practice must involve psycho-physical methodologies as the aspirant has to begin from his physical level of existence. This is exactly what *Yoga* teaches. The *Yoga* and *Tantra* philosophies treat universe as a macrocosm and human body as a microcosm. Realization of the life force in the microcosm (the human body) leads one to the realization of macrocosm (the universe, the *Brahmanda*). This is the secret on which all the *Shāstras* or philosophical aspects developed in India.

To gain an in-depth knowledge of both *Yoga* and Āyurveda, it is essential to learn them from a traditional Guru, otherwise the knowledge will remain at a very superficial level and the secrets will remain far away. The ultimate aim of both yoga and Āyurveda is to follow natural laws of nature to maintain good health to finally reach a peaceful *Moksha* (liberation).

Yoga and Āyurveda have existed together since ancient days and their existence is not separable. Unfortunately, in the present days both are dealt with separately which is wrong in principle and practice. Both are closely inter-related for the maintenance of good health and have a strong cultural impact on the Indian cultural heritage.

7

Diagnostic Methodology in Ãyurveda: Nidãna

Information about diagnostic methodology in Ãyurveda is plenty but is lying scattered in the texts at various places in the form of *Sutras, Slokas* or Verses.

This puts Ãyurvedic scholars in difficulty for examining and diagnosing a patient in an organized or systematic way.

Many new diseases are developing and so are newer diagnostic methodologies. It has become essential that an alternative medicine should remain updated with the recent developments in modern science utilized for diagnosing diseases.

According to Charaka, three things are essential for diagnosing a disease (CS. Vi. 8). They are:

1. *Pratyaksha* (Observation)
2. *Anumãna* (Inference), and
3. *Ãptopadesh* (saying of seers in authoritative classical and other texts)

Susruta prescribed, the use of five sense while examining a patient and asking *Prashnas* (questioning). It is essential for a physician to do both *Raga* (disease) and *Rogi* (patient) *Parikshã* (examination).

Later Mãdhava mentioned *Nidãnapanchak* (five diagnostic aspects) which are:

1. *Nidãna* or *Hetu* (causes responsible for *Roga*, the disease)
2. *Purva-Rupa* (Prodromal syndromes)
3. *Rupa* (Signs and symptoms of *Roga*)
4. *Samprãpti* (Pathogenesis) and
5. *Upasaya* (Therapeutic test)

After Madhava we find *Astavidh Pariksha* developed as in the text *Yogaratnãkara.* They are:

1. *Nãdi* (pulse)
2. *Mutra* (urine)
3. *Malam* (faeces)
4. *Jihvã* (tongue)
5. *Shabda* (voice)

6. *Sparsha* (skin or touch)
7. *Drika* (sight or eyes) and
8. *Ãkriti* (appearance, face, overall appearance)

In addition to the above in females, examination of *Ãrtava* (menstruation) and *Stanya* (breast milk) is done. *Astavidh Pariksha* has been discussed further in the section dealing with *Rupa* (signs and symptoms).

Ãyurveda texts mentioned *Dashavidha Parikshã* (ten types of examination). This examination should be made before final medicaments are given to a patient. It has been discussed further in the section dealing with *Samprãpti* (Pathogenesis of a disease).

In this way we observe, there is not much difference in the Ayurvedic methodology of diagnosing from the modern allopathic method of diagnosing a disease. Some minor conceptual variations are there. The methodology of examination is given in table 7.1.

Table 7.1 Steps in the Methodology of Examination

S.No.	Hetu Gyãna	Diagnostic Methods	Questioning and Examination
1.	Nidãna	Causes (Personal History)	— Through Prashna (questioning) in two ways, Shãmãnya (general) and Visesh (special information) as interrogation. — History of Past, addiction, family and environment.
2.	Poorva Rupa	Prodromal Symptoms	— Chief complaints and history of present illness. — Priliminary observable symptoms like lethargy, mild general body pain, feverish feeling, etc.
3.	Roopa	Symptoms and Signs	— Through Darshan (inspection), Sparsha (palpation), Angulitãndan (percussion) and Sravan (auscultation). For further details Hutchinson's book Clinical Methods may be followed.
4.	Upasaya	Therapeutic test	— It is done through Sãtmãsãtma (agreeable or non-agreeability) of Ausadha (drug), Anna (diet) and Vihãr (Routines of life and activities).
5.	Samprãpti	Pathogenesis	— To be assessed through Sankhyã, Vikalpa, Prãdhãnya, Bala and Kala. Along with this, the following things of a patient are also noted: 1. Bayah (age) 2. Bala (strength) 3. Desh (place) 4. Kala (time) 5. Agni (digestive fire)

(Contd)

S.No.	Hetu Gyãna	Diagnostic Methods	Questioning and Examination
			6. Kostha (bowel condition) 7. Prakriti (constitution and temperament) 8. Sattwa (manobal or mental strength), etc. These covers Dashavidha Pariksha. This assesment can also be madewhile taking personal history of a patient as in Nidãna.
6.	Upadrav	Complications	—
7.	Sapeksha Roga Nidãna	Differential Diagnosis	—
8.	Sãdhyã-Sãdhyatã	Prognosis	Three types: 1. Sãdhya (curable), 2. Kastasãdhyã (difficult and needs regular check up) and 3. Asãdhya (non-curable).
9.	Arista Lakshanam	Signs of Death	—
10.	Ãptopadesh	Ancient truths recorded in classical texts said by saints	Findings of latest medical research come under this group.
11.	Anusandhãn	Investigations	Clinical pathology, laboratory tests, imaging, etc., comes under this .
12.	Chikitsã	Therapy (It is better to have upasaya before giving chikitsa if at all present)	This is done through: 1. Sodhana (Body purification through Pancha karma procedures) 2. Samana (by giving Doshaviparit chikitsã) 3. Shalya (Surgery done where medicines fails) 4. Ahãra (diat) and Vihãra (following daily and seasonal activities, exercise, etc.)

The above may be summarized as follows:

1. According to Charaka, the steps mentioned are covered as follows:
   (a) *Pratyaksha* covers steps 1 to 6
   (b) *Anumãna* covers steps 7 to 8, and
   (c) *Ãptopadesh* covers steps 10 to 11 only.
2. *Astavidh Parikshã* mentioned by *Yogaratnãkara* is done by observing appearance macroscopically—examination of pulse, touch, faeces voice, tongue, appearance, urine, sight. In addition, in females menstruation and breast are also tested.
3. *Mãdhava Nidãna* mentioned *Nidãna Panchaka* at the very beginning of the book for the purpose of *Rogavinischaya* (diagnosis of a disease). This is covered in the steps 1 to 5 mentioned above in Table 7.1.
4. Lastly, we find that from the Ãyurvedic point of view:
   (a) *Rogi-Parikshã* (examination of a patient) is covered in steps 1 to 3
   (b) *Roga-Parikshã* (examination of a disease) is covered in steps 4 to 11
   (c) *Chikitsã* (management of a disease) is covered in step 12 in Table 7.1 and discussed in Chapter 8.

STEPS IN DIAGNOSTIC METHODOLOGY

1. NIDĀNA

The causative factor producing a disease (*Roga*) is called *Nidāna* or *Hetu*, e.g., eating soil causes *Pānduroga* (anaemia); *Mithyā Āhār* and *Vihār* is a causative factor of *Jwara* (fever).

Prashna (questioning), i.e., taking history of a patient includes noting chief complaints, personal history, past history, family history, social and environmental history and addiction history.

Nidāna is that in which *Mithyā* (*Ahit, Anuchit*) *Āhār, Vihār*, etc. i.e., *Bāhya-Nimitta-Karma* cause *Vaisamya* (disorder), *Vriddi* or *Kshaya* (increase or decrease) of *Dhatus* (*Tridosha*), *Saptadhatu* and *Updhātu* like *Ārtava* and *Stanya*); *Malas* (*Mutra, Purish, Sweda*) and two *Gunas, Rājas* and *Tāmas*. These are known a *Sāmānya Nidāna*.

On the other hand *Visha* (poison), *Shastra* (instrument), *Agni* (fire), *Abhighāt* (injury), *Krimi* (worms and germs) are also *Bāhya-Nimitta-Karana* and cause disease. These are known as *Visistha Nidāna* (causative factor).

So *Nidāna* has two *Bhedas* (type), *Sāmanya* and *Visistha*. *Nidāna* has three *Bhedas*, which are 1. *Asātmendriyartha, Samyoga*, 2. *Pragyāparādh* and 3. *Parināma*. *Shārir* and *Mānas Āshrayas* (abodes) become diseased due to *Hinayoga, Atiyoga Mithyāyoga* of *Asātmendriyārtha-Samyoga* (*Asātma* or *Ahit* like *Indriyas* or *Artha* having *Samyoga* (union) with *Visaya* or object), *Prāgyāparādh* [due to *Buddhi, Aparadh* like *Kāyik* (physical), *Vāchik* (speech) and *Mānasic* (mental) *Karma* (action)] and *Parināma* (due to *Ahit Sita-Ushna*). These three *Bhedas* have been discussed in chapter 6 dealing with Pathology (*Vikrita-Vigyāna*).

Nidāna actually means cause (*Kārana*) or *Hetu* (cause for disease). *Nidāna* also means aetiology of a disease which gives a complete picture pertaining to the causative factors of a disease.

The term *Nidāna* is usually used for *Hetu* (causative factor) which can be internal (due to *Doshas*) and external (*Bāhya* due to injury etc). The term *Nidāna* is used for *Nidāna Panchak* also.

To get a complete picture of a disease, laboratory methods for chemical, microscopical and culture examinations, etc. are done as for blood, stool, urine and for germs (*Rāksasa* or *Dānava*). These are dealt in *Anusandhān* (investigation section of Diagnostic methodology).

2. PURVA-RUPA

It is the prodromata of early symptoms and signs of a disease. This helps to know the incubation period of a disease.

Purvarupa is *Sāmanya* type (e.g., only fever, diarrhoea, etc.) and *Visistha* type (when associated with *Vātādi Dosha*, e.g., *Vātajwara*).

When *Sanchita* (accumulated) and *Prakupita Vātādi Dosha* spreads (*Prasāra*) in the body, in whichever Sthāna Visesha (specific place) it stays (*Āshraya*), there it produces some prodromal syndromes of the disease to be expected in future.

In *Jwar* (fever), *Atisār* (diarrhoea), etc., if some before hand symptoms indicate a disease but due to *Dosha* its occurrence is not known is called as *Sāmanya Purvarupa;* and cases in which

particular *Doshas* as *Vāyu, Pitta* and *Kapha* are known to be cause is called *Visistha Purvarupa,* e.g., *Jwar* (fever) where in *Vātajwara Jrimbhā* (yawning) comes; in *Pittajwara,* burning sensation in eyes and in *Kaphajwara,* appetite for food is lost.

The *Sthānasansraya* stage in the pathogenesis or progress of a disease gives rise to symptoms known as *Purvarupa* or prodromal symptoms. Here deposition of *doshas* takes place where *Āma* flows in. At this stage *Dosha Dushya* amalgamation takes place.

3. RUPA (OR LINGA OR SIGNS AND SYMPTOMS)

The measures through which we get *Roga Gyāna* (knowledge of the disease) is called *Linga.* So, *Linga* is a term which covers *Purvarupa, Rupa, Upasaya* and *Samprāpti,* with the help of which we diagnose a disease (*Roga*). So to diagnose a disease knowledge of *Nidāna, Purvarupa, Upasaya* and *Samprāpti* is essential.

The signs and symptoms produced in a *Vyādhi* (disease or *Roga*) is called *Linga, Vyādhis* have one *visesh* (special) *lakshan.* On the basis of which names are given, e.g., *Santāp* in *Jwara, Atisaran* (excess liquid motion) in *Atisāra, Adhik* and *Malin* (increased turbid) *Mutra* (urine) comes in *Prameha* (urinary trouble), *Kāshan* (cough) in *Kāsh,* spreading all around like a snake in *Visarpa,* etc., are known as *Visistha* (specific) *Rupa* and further due to *Dosha Dushya Samucchaya* the symptoms which occur for the future coming disease is known as *Sāmānya Poorvarupa.*

The signs and symptoms are assessed through the five senses. They are inspection, palpation, percussion and auscultation. To understand this approach, use of Hutchinson's book on allopathic clinical method of examination is very useful.

According to the Āyurvedic way, the examination of the six major parts of the body known as *Sadānga Sarira* which are covered by *Rupa* (symptoms and signs) has to be performed.

Table 7.2

S.No.	***Sadānga***	***English Equivalents***
1.	Shirogribra	Head and neck
2.	Antarādhi	Trunk
3.	Urah	Chest
4.	Kostha or Udara	Abdomen
5.	Bāhu	Upper Extremity
6.	Sakthili	Lower Extremity

The examination of *Srotas* (channels) covers different systems of the body under *Sadānga* (six parts of the body) and their inspection is covered by the section of *Rupa* where inspection, palpation, etc. are done.

So under *Rupa* (symptoms and signs), *Srotas Parikshā* (examination of channels) are also done which are 13 in number. We observe that the ancient day *Srotas Parikshā* resembles present

day systemic examination of the body like Gastro-intestinal system, Respiratory system, etc. In Table 7.3 *Srotas* have been mentioned under different types of vegetative and tissue systems of the body.

Table 7.3

S.No.	Srotas	Systems in the body
1.	Prãnavaha	Respiratory
2.	Annavaha	Gastro-intestinal
3.	Udakavaha	Lymphatic or Fluid System of the Body
4.	Rasavaha	Cardio-Vascular
5.	Raktavaha	Haemopoitic system including Liver, Spleen and Bone-marrow
6.	Mãmsavaha	Muscular Tissue
7.	Medovaha	Fatty Tissue
8.	Asthivaha	Bony Tissue
9.	Majjãvaha	Bone Marrow Tissue
10.	Sukravaha or Ãrtavaha	Genital
11.	Purishavaha (Mala)	Coecum and colon region
12.	Mutravaha	Urinary tract
13.	Swedavaha	Sweating

The symptoms which gives knowledge of a disease (*Roga*) are called *Linga*. By seeing the *Vyãdhi Swaroopa* (disease picture) the name of the disease can be diagnosed. These are known as *Chinhya* or *Lakshana* (symptoms and signs), e.g., High fever, *Atisãr* (diarrhoea), leg cramps, vomiting, etc., indicate *Pittajwara* symptoms.

Now a days *Rupa* is considered as of two types:

1. *Lakshana* (symptoms): These are called subjective symptoms. These are known by questioning, e.g., *Aruchi* (loss of appetite), *Kãsh* (cough), etc.
2. *Chinhya* (signs): These are called objective signs. These are recorded through *Darshan, Sparsan, Angulitãndan, Urahsravan* (auscultation), investigations like laboratory tests, X-ray, ultra-sound, etc., come under this category.

Examinations done with the help of five sense organs to diagnose a disease (Roga) are as follows:

1. Inspection with the help of *Chakshurindriya* (eye) is termed as *Chãkshusa Parikshã* or *Darshana* (examination with the help of eyes).

2. Palpation or *Sparsha* (touch) with the help of *Sparsendriya* or by tactile sense organs using hands for *Twachkā Parikshā* (examination of skin and body by touching or using hands).
3. *Sravana-Parikshā* (examination by using ears through percussion with hands and Auscultation, (aided with a stethoscope or unaided).
4. *Ghrāna-Parikshā* (examination by using nose) is done by noting various odours or smells from various parts of the body and the excretions.
5. By *Rasana-Parikshā* (examination through the taste organ tongue): It is done by inference through *Pratyaksha* (by observing), e.g., ants run to urine having sugar as found in diabetes and by laboratory methods.

Astavid Pariksha (eight types of examination) as mentioned in text *Yogaratnākara* is also done under this heading of *Rupa,* because all these come under observation except pulse examination which is done by examining the pulse. Nowadays urine and stool are further examined by laboratory investigations.

The *Srotas* mentioned above cover different symptoms of the body, which come under *Sadānga* (six parts of the body) examination. So, the inspection of these are covered by this section *Rupa* where inspection, palpation, percussion, etc., are carried out.

In *Astavid Pariksha,* the signs and symptoms due to increased *Doshas* are enumerated in Table 7.4.

Table 7.4

S.No.	Parikshā (Examination)	Vāta	Pitta	Kapha
1.	Nādi (Pulse)	Is rapid, thin, movement inside is like that of a snake	Is full and more rapid than usual or like a jumping frog	Is slow and regular, moves like a swan swimming in a pool or moves like a dove
2.	Mutra (urine)	Has a dark colour and is frothy	Is hot and clear. Yellow to reddish colour (due to bile pigments and blood) and burning sensation white passing urine	Is pale and turbid because of undissolved albumen present in suspension
3.	Malam (faeces)	Are hard and dry. Blackish, patient feels constipated	Are loose to watery. May become blood-stained or yellow	Are loose, bale, slimy, causes irritation
4.	Jihva (tongue)	Is furrowed and dry colour is bluish to black	Is red and swollen	Is furred with white coating and swollen
5.	Shabda (voice)	Is rough, dry and hoarse. Vocal cords are sore and dry cough is there	Heated and angry. Words tend to tumble out. An impulse is there to convince others by shouting at them	Is soft, low and sweet

(Contd)

S.No.	Parikshā (Examination)	Vāta	Pitta	Kapha
6.	Sparsha (Skin)	Is cracked and numb, dry and rough. Colour turns dark and skin feels cold.	Looks smooth and soft, red coloured and shining, yellow and red batches, increased perspiration	Is white, cold, greasy and plump
7.	Drika (Eyes)	Do not shine due to lack of moisture	Vision defective, inflammation of the eyes, red venules	Is clear and the whites, white looking, pupils are large
8.	Ākriti (Face, over all impression)	Fearful expression and does not fight the disease	Restores, anxiety and apprehension present. Emotions exaggerated. Tries to fight sickness	Self-pity, apathy and show of unconcern

4. UPASAYA (THERAPEUTIC TESTS)

In doubtful diagnosis, help of *Upasaya* (Therapeutic test) is taken, e.g., Quinine gives relief from Malaria fever. The substances which give relief are called *Sātma* and which fail to relieve are called *Asātma*.

Here *Sātmāsātmya* (agreeable), *Ausadhi* (medicine), *Anna* (food *Ahāra*, diet) and *Vihāra*, (daily routine like exercise, sleep, meditation, etc.) following *Sadāchār, Sādvritta* and *Ritucharyā* (seasonal regimens) are prescribed to a patient. If they are agreeable, then are called *Sātmya* and when disagreeable are called *Asātmya*. Here in a disease where *Ahār, Vihār* and *Ausadhi* are favourable (*Anukul*) or non-favourable (*Ahanukul*) are observed.

The *Sukhakārak* (pleasing) ultimate *Parinām* (result) due to *Ausadhi, Ahār* and *Vihār* (e.g., sleep, wakefulness, walking, exercise, prayer or *Pooja*, meditation or *Sādhanā*, etc.) are known as *Upasaya*.

The effects of each of the *Ausadhi, Ahār* or *Vihār* may be:

1. *Hetuviparit Dravyas*:
   (a) *Hetuviparit Dravyas*, e.g., in *Sita-kaphajwara Sunthyadibhesaj dravyas* are useful.
   (b) *Hetuviparit Vihār*, e.g., in *Shramajanita Vātajwara*, *Anna* taken is *Mamsa-Rasa*.
   (c) *Hetuviparit Vihār*, e.g., in *Kapha* problem due to daytime sleeping is not to sleep at night.
2. *Vyādhiviparit Dravyas*:
   (a) *Ausadha*, e.g., in *Atisāra, Malastambhak* drugs like *Pāthā*, etc., are useful.
   (b) *Anna*, e.g., in *Atisāra*, use of *Masuradāla*, etc., is beneficial.
   (c) *Vihār*, e.g., in *Udarāmaya*, *Pravahanādi* is useful.
3. *Hetuvyādhiviparit Dravyas*
   (a) *Ausadhi*, e.g., *Vātajanita*, so the *Vātahar* and *Sothahar dravyas Dasamuladi* are used.
   (b) *Anna*, e.g., *Vātakaphajanita Grahani* (colitis) *Roga*, where *Vātakaphahar* and *Grahanihar Takrādi* are useful.
   (c) *Vihār*, e.g., in *Snigdhakriyā* or *Divānidrajanita* (due to daytime sleeping) *Kaphatandrā Roga Rukshanakriyā* and *Rātrijāgaran* (night wakefulness) is followed.

Roga-shānti (relief from diseases) takes place on use of *Hetu-vyadhi Viparita Ausadhi, Āhār* and *Vihār*. After taking *Hetu, Vyādhi* or *Hetu-vyādhi Viparita Ausadhi, Anna* or *Vihār*, the result is *Sukhavaha* to a patient who feels relief. This state is called *Upasaya* or *Sātma* (agreeable), but on taking *Ausadhi*, food or *Vihār* condition is painful and *Dukshavaha*, then it is called *Asātma* (non-agreeable). So *Upasaya* results in relief after giving *Ausadhi, Anna* and *Vihār*.

The other three measures are:

4. *Hetuviparitārthakāri Dravyas*
5. *Vyādhiviparitārthakāri Dravyas*
6. *Hetuvyādhiviparitārthakāri Dravyas*

So, we find in total there are 18 types of measures, where six above types are multiplied by three *Doshas* (*Vayu, Pitta* or *Kapha*) are present.

In *Mādhava Nidāna* text, we find, *Upasaya* aspect has not been discussed in detail as this section is taken care of with *Chikitsā* (therapeutic) as mentioned in the 12th step in the Diagnostic Methodology.

5. SAMPRĀPTI (PATHOGENESIS)

Samprāpti of a disease are the changes observed in a disease from the time of *Purvarup* to the cause of a disease.

Samprapti deals with the *Hetu*, the causative factor (*Nimitta Kārana*) which has vitiated or disturbed the *Doshas*. How *Sanchaya* and *Prakopa* of *Vikrita* (vitiated) *Dosha* has taken place and because of this *Dosha* in the body which *Āvayav-sthāna Samsraya* has been affected (*Dushita*) which *Dushya* (*Dhātu, Upadhātu* and *Mala*). Because of affected *Dushya*, the *Purvarupa* is observed and further, which *Dosha* is predominant causing *Vātaj, Pittaj, Kaphaj, Dwandhaj, Sannipātaj, Rājas* or *Tāmas* diseases and disorders.

Pathogenesis of a disease is called *Samprāpti*, where progress of a disease in the body is observed. *Samprāpti* of a disease (*Roga*) has been described by Madhava in his *Nidāna* text for *Chikitsā* (therapeutic) purpose and has five *Bhedas* (types), which means five aspects of Pathogenesis of a disease.

1. *Sankhyā*
2. *Pādhānya*
3. *Vidhi*
4. *Vikalpa*
5. *Balakāla*

Pathogenesis of a disease in a person also depends on the *Bala* (intensity of the disease, season, time which is *Ahorātra*, related to *Kāla* (time).

The *Samprāpti* is based on *Sat-kriyākalas*, the six steps in the progress of a disease (*Sanchaya, Prakopa, Prasara, Sthānasamsraya, Vyāktivasthā* and *Bhedavastha*) are assessed by observing *Sankhyā, Vikalpa, Prādhānya, Bala* and *Kāla* of the disease. The steps of the progress of a disease are as follows:

1. *Sanchaya* is the first stage of a disease. This is known as incubation or stage of accumulation.
2. *Prakopavasthā* is the provocative stage of a disease
3. *Prasarāvasthā* is the stage of limitation

4. *Vyakti* (*Vyāktavasthā*) is the stage of manifestation or fully developed stage of a disease
5. *Bhedāvasthā* is the stage of variation, complication, etc.

So *Samprāpti* takes place because of taking wrong (*Ahit*) diet (*Ahār*) and *Vihār* (activities). The vitiated (*Prakupila*) *Dosha* effects *Dushya* and its accumulation in a part of the body organ causes specific (*Visesh*) *Vikriti* (disorder and diseases).

The five *Bhedas* of *Samprapti* are as follows:

1. Sankhyā It has been observed that *Jwara* (fever) has eight types of *Samprapti* because of having eight types (*Bhedas*). They are *Vātaj, Pittaj, Kaphaj, Vātāpittaj, Vāta-kaphaj, Pitta-kaphaj, Tridoshaj, Abhighātaj* and *Āgantuj*.

2. Vikalpa In *Ekaj, Dwandhaj* or *Sannipātaj-vyādhi* (disease), *Vāyu* due to its own *Ruksha, Sita* and *Visada Guna; Pitta* due to *Ushna* and *Tikshna guna* and *Kapha* due to *Sita, Guru, Picchil* and *Snigdha* whichever is dominant, it produces symptoms according to which *Balas* (strength) of the *Doshas* are understood and is *Vikalpa Pradhāna*.

If *Vāyu* due to its own *Ruksha-guna* (partly) becomes *Prakupita* (vitiated), then the use of *Shigdha-Guna-Dravya* is beneficial. If it is due to *Sita-guna*, then use of *Ushna-dravyas* helps. If due to *Laghu-guna* it gets *Prakupita* (increased), then *Guru Dravyas* are administered; if it is due to *Vishad* then, *Picchil Dravyas* are given; if due to *Ruksha* and *Sita*, two *gunas*, then is mitigated with *Snigdha* and *Ushna Dravyas*, etc., should be given for *Chikitsā*. Similarly, it is done in *Pitta* and *Kapha Doshas* producing symptoms.

3. Prādhānya It *Dwandhaj* and *Sannipātic* diseases, it is associated with main causative *Doshas Swatantra* or *Pradhāna* and symptoms due to other causes in a disease is called *Apradhāna*. In *Chikitsā* (therapeutics), *Samana* (mitigation) of *Pradhāna* (main) and *Apradhāna* (non-specific) causes are also done.

4. Balābala A disease is called *Balavān–Vyādhi* (strong disease) when it has both *Purvarupa* and *Rupa*. But when partly *Purvarupa* and *Rupa* is seen, it is then called *Hinabala vyadhi*.

5. Kāla While diagnosing a disease it is observed that *Kapha* increase in the early morning, early night and after taking food, *Pitta* gets increased at noon, mid-night and during digestion and *Vāyu* gets increased during evening, last part of the night and during last stage of digestion.

As per season: Vāyu gets increased during rainy season (especially in July), *Pitta* gets increased during Autumn season (especially September) and *Kapha* increases during spring season (especially March). Diseases having vitiated *Doshas* corresponding with season will have more aggravation due to synergistic action.

Success in *Chikitsā* (Therapeutic) results from a clear knowledge of diagnostic methodology to identify a disease. In Āyurveda this is known as *Vyādhi-Vigyān* or *Roga-Nidāna* or *Roga-Vinischaya*.

In texts of charaka Susruta, viagbhata and others, sufficient information on *Roga-Nidāna* is not available but in *Sutra-Rupa* (verse form) it has been mentioned at various places. For this reason an ordinary physician fails to have the full benefit of this knowledge.

Now-a-days for teaching *Roga-Gyāna* (knowledge of the disease), Āyurveda students follow the *Mādhava Nidāna*, which is quite an old collection and in the present day does not fulfil the necessary diagnostic methodology needs. In the present day many diseases are coming up and

examination by old Ãyurvedic method is incomplete and the students and practitioners find difficulty in making diagnosis.

In Ãyurveda diagnosis of a disease is made by examining physical body mainly by observing symptoms and signs due to disorder in the three *Doshas* (*Vãyu, Pitta* and *Kapha*) and two *Mãnas Doshas* (*Rãjas* and *Tãmas*).

Before giving any therapy the knowledge of the following necessary, which in other words is known as Dashavidha Parikshã (ten types of examination).

These ten types of examinations (CS. Si. 3) are:

1. *Dosha*
2. *Ausadha*
3. *Desha*
4. *Kãla*
5. *Sãtmya*
6. *Agni*
7. *Sattwa*
8. *Oka* (*Abhyãsa-Sãtma*)
9. *Bayah*
10. *Bala* of a patient.

On the basis of all above mentioned observations the *Chikitsã* (therapy) is given on the following lines:

1. *Dosha Viparit Chikitsã* (*Hetu* could be *Bãhya* or *Abhyantara*)
2. *Sodhana* or *Samsodhana* (*Panchakarma* measures)
3. *Samana* or *samsamana* (balancing *Dosha* disorder)
4. *Salya Kãrmãdi* (surgical measures)

The factors necessary to be observed before any medication are as follows:

1. *Bayah* (*Ãyu* or age)
   It is three types.
   (a) *Bãlyavasthã* or childhood (0-16 years)—*Kapha Vriddhi* in this age
   (b) *Madhyãvasthã* or Middle age (16-70 years)—*Pitta Vriddhi* in this age
   (c) *Vriddhãvasthã* or old age (after 70 years)—*Vãyu Vriddhi* in this age
2. *Bala*: Examination of strength of the body and resistance power of the disease is done. It is three types.
   (a) *Sahaj Bala* which is normal strength
   (b) *Kãlaj Bala* which is seasonal strength
   (c) *Yuktikritãbda Bala* which is due to having balanced.
   ãhãr (diet) and *chesta* (efforts for exercise, etc.).
3. *Desha* (place) *Vichãr* (examination): Three types.
   (a) *Anup* (Marshy place) like Bengal, Assam states.
   Here increased *kapha* and *vãta* factors are prevalent and for *Ãrogya* (cure), it is *Nikristha* (unsuitable) *Desha*.
   (b) *Jãngal* (dry place) like Mãrwãr, katch in Western India where more *Pitta* and *Vãta* causing factors are present and so called *Madhyãm* (medium) *Desha*
   (c) *Sãdhãran* (Normal) Where excess marshy or dryness is not present. *Tridosh* factors are in equilibrium and is *uttam* (best) *Ãrogya sthãna*. These places are Gangetic plain areas of India.

4. *Dosha Vikriti* (morbid condition):
   Already discussed above under *Sankhyā*, *Vikalpa Pādhānya*, *Kāla* (time of the day and season) factors with reference to *Kriyākāla* or six stages of a disease.
5. *Agni* (Digestive fire):
   It is the capacity of a person for ingestion and digestion of food ingested or eaten. It is four types:
   (a) *Sāma-Agni*—due to *Dosha* equilibrium is the best (*srestha*) type
   (b) *Vishama-Agni*—due to increase of *Vāta Dosha*
   (c) *Tikshna-Agni*—due to increase of *Pitta Dosha*
   (d) *Manda-Agni*—due to increase of *Kapha Dosha*
   These (b), (c) and (d) are poor (*Nikristha*) type.
6. *Kostha* (Bowel condition):
   Its *Bhedas* and *Lakshanas* are:
   (a) *Mridu* (Mild) *Kostha* due to increased *Pitta* takes place.
   Virechan (purgation) easily occurs even with the intake of milk.
   (b) *Krura* (rough) *Kostha* due to increased *vāyu* and *kapha*. Here passing stool becomes difficult. For purgation here black *Nisoth* is used. This is mainly due to increased *vāyu*. When it is due to increased *kapha* it called *Sāmakostha*.
   (c) *Madhyam* (average or medium) *Kostha* is due to equilibrium state (*Sāmyāvasthā*) of the *Tridosha*.
   The *Āhāra Shakti* or the capacity of taking and digesting the amounts of food taken is again of three types:
   (a) *Uttam Āhār Shakti* is called *Uttam Bala*
   (b) *Madhyam Āhār Shakti* is called *Madhyam Bala*
   (c) *Nikristha Āhār Shakti* is called *Hina Bala*
7. *Prakriti* (*Sāriric* and *Mānasic*):
   Prakriti deals with the constitution and temperament of a person. It is three types:
   (a) *Dosaj*: which is again of seven types *Vātaj*, *Pittaj*, *Kahpaj*, three types of *Dwandhaj* and *Tridosaj*.
   (b) *Panchabhautic*: These are of three types *Vāyabya*, *Tejas* and *Āypya* type (excluding *Ākāsh* and *Pārthiv* type).
   (c) *Mānas* These are of three types *Sattwic*, *Rājasic* and *Tāmasic*.

A person is *Vātal* due to increased *vāyu* and is called *Hinaprakriti*. A person is called *Pittaj* due to increase *Pitta* and is called *Madhyam Prakriti*. A person with *sleshmaj* due to increased *kapha* is called *Uttam Prakriti* and a person having *Sama-Dhatu* is called *Nirog* or *Sustha-Prakriti*.

Again when *Deha* (physical body) is considered. Its *Bhedas* and *Lakshanas* are.
   (a) *Sthula Sharir—Nindita* (poor)
   (b) *Krisha Sharir—Nindita* but less than *Sthula*
   (c) *Madhyam Sharir—Srestha Manushya* (excellent and healthy person).
8. *Sattwa Pariksha* (Examination of Mental state)
   It is of three types:
   (a) *Prabar* or *uttum manobal* (excellent mental state)
   (b) *Madhyam sattwa* (Redium mental state)
   (c) *Avar sattwa* or *Alpa manobal* (weak mental state)
9. *Sāra Parikshā* (Nutrition examination)

There are eight types of *Sāra* in the body which are *utkristha* (best) and *Pradhān* (main or essential). They are:

(a) *Twaksār*
(b) *Raktasār*
(c) *Māmsasār*
(d) *Medasār*
(e) *Asthisār*
(f) *Majjāsār*
(g) *Sukrasār and*
(h) *Sattwasār*

10. *Pramāna* (measurement of the various parts of the body)
It is again of three types:
(a) *Sama Pramāna*: A person having proportional development of the body maintains *Dirghāyu* (prolonged life).
(b) *Madhya Pramāna*: A person having medium type of body development maintains *Madhyam Āyu* (i.e. average life-span).
(c) *Alpa Pramāna*: A person having poor physical development has *Alpāyu* (i.e. shorter life-span).

During special interrogation, the above ten investigations were usually made by observation using Eyes.

6. UPADRAVA (COMPLICATIONS)

The *Doshas,* the Bioregulating Principles causing a disease and in addition other *Vikāras* (disorders) are called *Upadrava.*

7. SĀPEKSHA ROGA NIDĀN (DIFFERENTIAL DIAGNOSIS)

Signs and symptoms of *Raktameha* and *Raktapitta* are more or less similar, so the help of Differential Diagnosis is taken to diagnose a disease (*vyādhi*).

8. SĀDHYĀSĀDHYATWA (PROGNOSIS)

When the *Hetu* (causative factor), *Purvarupa* and *Rupa* are not clear enough and the *Dushya* (*Rasa,* etc.) and *Dosha* (*vāta,* etc.) are not strong enough and the *Prakriti* is not like the disease causing factor, then the disease is said to be *Sukha-Sadhya* (easily curable). But when the *Purvarupa* and *rupa* are *madhyam bala* (medium strength) and along with that of *Kāla, Prakriti, Dosha* and *Dushya* is similar, then the *vyādhi* is said to be *Kastasādhya* or *Krichrasādhwa.* (cured with difficulty). *Sannipāta Jwara* indicates *Asadhwatā* (not curable).

Prognosis of diseases are of two types on the basis of *Sādhya* and *Asādhya. Sādhya* is again of two types *Sukasādhya* and *Krichrasādhya,* while *Asādhya* again are of two types called *Yāpya* and *Asādhya.*

9. ARISTA LAKSHANAM (SIGNS OF SURE DEATH)

Symptoms which immediately or later, definitely cause death are called *Arista.* No death occurs which has no before hand *Arista Lakshana. Arista* is an indication of death.

10. ĀPTOPADESH (TALKS OF SEERS)

It includes all the latest findings of Medical Research which are valid truth like what the ancient seer said from their prolonged experience.

Āptopadesh, upadesh or authoritive texts, i.e., the texts where the description of diseases regarding the aetiology, prodromata, symptoms and signs, Dietatic and therapeutic regime and pathogenesis of a disease are considered. The descriptions in the books are to be strictly followed as the axiom of truth. Similarly latest findings through research are also established truth, so they are also taken as *Āptopadesh*. *Aptopadesh* means truths said by the ancient seers and sages.

In the present days, many famous scientists with extensive research have classified many facts which were unknown before. So these people are called *Āpta* and their discovers and findings are called *Aptopadesh*.

11. ANUSANDHAN (INVESTIGATIONS)

Anusandhān or investigations in the modern scientific world have developed extensively, which lacked in the past due to non-availability of investigating equipments and chemicals. Presently investigations are carried out through laboratory Biochemistry, Pathology, Histopathology, imaging (includes X-ray, CATscan, MRI, etc.), Ultra sound, serology, Immunology, ECG, EEG, and many other techniques.

8

General Principles of Treatment: Chikitsã

The aim of Ãyurveda is to maintain the equilibrium of the *Doshas*, the Bioregulating Principles through therapy (*Chikitsã*) by which the *Dosha* and *Dhãtu* (tissues of the body) are brought to their normal state of equilibrium (CS. Su. 6; Cf. CS. Vi. 8).

According to Susruta, a person may be called healthy when his *Doshas* are in equilibrium. When the *Agni* or the digestive power remains uniform; the *Dhãtus* and *Malas* function properly and the body and mind with the senses remain serene and undisturbed (SS. Su. 15).

Susruta further said, due to different constitutions and physical builts of a person and due to the varying and ever changing age of individuals, the qualities of *Dosha, Dhãtu* and *Malas* cannot be fixed in every case.

It is obvious that, to maintain the equilibrium of the *Dosha, Dhãtu* and *Mala,* one has to use drugs and vegetables. There is no substance in this universe which cannot be used as medicine.

When the abnormal condition persists in the body, definite charges occur in particular tissues (called *Dushya*) concerned as a result of the affection of the areas (due to *Sthãnasangsraya*) causing pathological charges called *Dushya-vikriti* in them. In case of trauma or injury and other extraneous causes, the pathological condition comes first and the derangement of the *Dosha,* the Bioregulating Principles follow, leading to further similar charges.

The therapeutic aspect of Ãyurveda is basically concerned with the two aspects to maintain good health (CS. Su. 30).

1. To preserve the health of the healthy.
2. To restore the health of the diseased.

The Ãyurvedic treatment aims as restoration of the equilibrium of the three Bioregulating Principles (*Tridosha*) and of the tissues (*Dhãtus*) by employment of food, drugs, exercise, enemata, etc. as per their action. It may be either against:

1. The deranged principles (*Hetuviparit chikitsã*)
2. The diseased condition particularly by specific actions (*Vyãdhiviparit chikitsã*)
3. Both (*Hetuvyãdhiviparit chikitsã*)

The preservation of health mainly depends upon the maintenance of the equilibrium of the Bioregulating Principles by suitable food, fresh air, regular exercise and other measures recommended for good health (*Swasthavritta*), such as following daily and seasonal (*Dinacharyā* and *Ritucharyā*) or sexual incontinence (*Brahmacharyā*), etc., has been discussed in the classical Āyurvedic texts in detail. These measures also include the occasional use of particular kinds of food, modes of living and remedial agents to counteract the normal variations of the *Doshas* according to daily and seasonal disturbance, for examples, the use of laxatives in Autumn season (*Sarat kāla*) when *Pitta* gets deranged.

The objective of Āyurveda is to create a situation in which the morbific agents cannot multiply any longer. If the conditions of the soil is strong, then disease causing germs cannot stay or multiply easily.

Charaka mentioned that after *Rogi Parikshā* (examination of a patient), the following ten factors are to be noted before rendering medication known as *Dashavidha Parikshā* to a patient. They are 1. age 2. time, 3. place, 4. diet, 5. *Dosha*, 6. mental state, 7. structure of the body, 8. temperament and physical condition, etc.

The various forms of treatment in Āyurveda can be conceived in three-fold ways. They are:

1. *Samsodhana* or body purification therapy.
2. *Samsamana* or balancing vitiated *Dosha* by using six types of *Rasas*.
3. *Ahār* (diet) and *Vihar* (regulating daily activities like exercise, sleep,.etc).

1. SAMSODHANA THERAPY

This is a body purification method where increased *Doshas* are expelled from the body by using emetics, purgative and enemas. The normal *Dhātus* are the result of the normal way of living. The equilibrium of the *Dhātus* including *Doshas* is not disturbed unless there is some predisposing cause, and when this disturbed condition prevails in the body, then it does not come to normal by itself (CS. Sā. 1; Cf. CS. Su. 16). So the disturbed *Doshas* and *Dhātus* are brought back to their normal state by purification of body by *Sodhana* methods. The first step towards disease cure in the body is to eschew the pathological cause of that disease (SS. Ch. 1). The next step is to purify and calm the *Doshas* (Cf. CS. Vi. 7) by using enemas, purgatives and emetics.

(a) Vāta Disorder

Enemas prove best for mitigation of *Vāyu*. Enemas are of two kinds—(i) made up of oily substance and (ii) made up of herbal decoctions.

According to Charaka, an enema is the best of all treatments for ridding one of highly aggravated *Vāyu* (CS. Su. 20; CS. Si. 1). The intestines are the special seat of *Vāyu* and when the aggravated *Vāyu* of this place is brought down, the *Vāyus* of the other parts of the body also calm down. On application, enema goes to the intestines and destroys the root of any aggravated *Vāyu* (CS. Su. 20).

(b) Pitta Disorder

Purgatives are best for aggravated *Pitta,* because they go to the duodenum, the special seat of *Pitta* and remove the root of any *Pittaja,* the *Pitta* type of disease. Just as, when the fire within a room is extinguished the whole room becomes automatically cool. So, when the *Pitta* in the duodenum is brought under control, the aggravated *Pittas* at all other places of the body will also automatically calm down (CS. Su. 20).

(c) Kapha Disorder

Emetics are best for an aggravated *Kapha,* for, as soon as the emetic is applied, it enters the stomach, the special seat of *Kapha* and drives out the increased *kapha.* When the root of aggravated *kapha* is removed the vitiated *kaphas* of all other parts of the body are also calmed down.

Of all the substances, oil is the best for mitigating *Vãyu,* clarified butter (*Ghee*) for *Pitta* and honey for *Kapha* (AH. Su. 25). Hot and oily substances are specially good for *Vãyu,* hot and dry substances for *Kapha* and sweet and cool substances for *Pitta* (SS. Su. 46).

The use of emetics, purgatives and enemas are used in important procedures of purification method of the body and are important components of *Panchakarma* Therapy. *Samsodhana* means elimination of dirt of the body and purification of the tracts or channels. This procedure of treatment is done under groups of activities known as *Purvakarma, Pradhãna karma* and *Paschãt karma.*

1. *Purvakarma* This includes *Snehana* and *Swedana* (oleation and sudation) which prepares the body of the patient for *Pradhãna karma* or the main treatment.

2. *Pradhãna karma* This consists of five procedures of medicament, viz. (a) *Vamana* (Emesis), (b) *Virechana,* (c) *Niruha vasti,* (d) *Ãsthapan vasti* (enema) and (e) *Nashya* (Errhines).

3. *Paschãt karma* This is followed to bring the patient to his normal diet by following strict diet regimen. During treatment, light diet intake like gruel barley, etc., are used at the initial stage and gradually, the diet is brought back to the normal level after a few days.

2. SAMSAMANA THERAPY

Here the disturbed *Doshas* are calmed down by the use of six *Rasas* present in diet, medicaments, etc., so that, the disease or disorder in the body ceases.

(a) Vãta Disorder

Of the six *Rasas,* the sweet (water and earth element), sour (water and fire element) and salt (include earth and fire) mitigate or reduce *Vãta.* The other three tastes pungent (air and fire element), bitter (air and ether) and astringent (air and earth) increase *Vãta Dosha.* Here we find that none of the three tastes (*Rasas*), sweet, sour and salty have air element as its source, so these can bring down any excess of *Vãta Dosha* which primarily constitutes the air element. The other tastes pungent, bitter and astringent have air (*Vãyu*). According to Susruta (SS. Su. 42), *Vãyu*

has the same origin as that of the *Kasāya Rasa.* That is why the astringent taste particularly aggravates *Vāyu.*

(b) Pitta Disorder

The three *Rasas,* astringent, sweet and bitter do not have fire (*Tejas*) element as one of their source, so these mitigate *Pitta,* which is *Taijasa,* i.e., preponderating the fire. The other three, namely sour, salty and pungent have fire as one of their taste sources and therefore aggravates *Pitta.*

(c) Kapha Disorder

The three *Rasas,* pungent, bitter and astringent do not have water as one of their sources. They, therefore, mitigate *Kapha.* According to Susruta (SS. Su. 42), *Kapha* and *Madhura Rasa* have the same origin. So the sweet taste particularly aggravates *Kapha Dosha.*

The different kinds of *Panchabhutika* matter, are the receptacles of these six *Rasas* which are inherent qualities of different substances. No piece of matter, therefore, can exist without *Rasa.* Even material substances, and the different *bhasmas* (calcined metals) are said to possess *Rasa.* When we say, sweet *Rasa,* we mean a substance which has the quality of sweetness in preponderance.

According to Susruta (SS. Su. 42), *Vāyu* has the same origin as that of *Kasāya Rasa.* That is why the astringent taste particularly aggravates *Vāyu. Pitta* and *Katu Rasa* have the same origin. Similarly *Kapha* and *Madhura Rasa* have the same origin. So, the pungent and the sweet taste particularly aggravates *Pitta* and *Kapha* respectively.

The process of digestion is nothing but an interaction between the food stuffs and the three *Doshas,* that is to say, between the three *Doshas* and six *Rasas.*

3. ĀHĀR AND VIHĀR

The third step is concerned with reinforcing the powers of resistance and developing inner vitality by the proper care and follow-up of *Āhār* and *Vihār* to overcome diseases.

Āyurveda stresses on the value of a balanced, well chosen diet or *Āhār* having all the six *Rasas.* More of one or other in a diet is prescribed to meet the special needs of an individual like for manual worker, expectant mother or a person having sedentary occupation. The relationship of *Rasas* to *Tridosha* have a special effect on diets as it is very useful for assessing what we eat. In Āyurveda, diet has an energising effect. It not only takes into account the healthy state of a person, but also time of the day, the time of the year and the age of the dieter. One's body could be used to its full capacity by taking correct diet. A proper diet improves the functioning of the mind also.

Vihār or a routine follow-up of the days activities helps in self-development. It is like rising before sunrise. The best time is *Brahmamuhurta,* i.e., one and half hour before sunrise, cleaning or washing mouth, eyes and face with water or with medicated herbal decoction, cleaning teeth with herbal tooth powders, oil massage of the head and body and oiling the nose and the ear.

Physical or *Yoga* exercise, meditation and morning prayer, bath with warm water in winter and with cold water in summer, selection of right kind of clothes, jewellery or fragrance, and care for meals, study, work, sex activities at regular and at proper times, etc. Practice of all these helps one to have a good health. All these come under daily routine known as *Dinacharyā*. Similarly to avoid congestion of any *Dosha* during a particular time of the year, attention is paid to seasons and this practice is known as *Ritucharyā*.

Vihār or the mode of activity during diseases means the routines and practices to be followed during health and disease. As an example, in fever of recent origin, avoid sleeping during the day and baths, sexual activity, massage, anger, excitement, exercise, exposure to wind and heavy food should be avoided. The regime to be followed on the contrary is, complete rest, mind should be kept calm and at ease, fasting and so on. *Vihār* in this way during sickness includes various psychological aspects and life-style.

Āyurveda also mentions that when any natural urge like defecation, urination, coughing, yawning, weeping, laughing, etc., arises, they should not be suppressed and emotions like cruelty, hatred, jealousy, anger, etc., should be kept under check otherwise they may cause many serious problems in the body.

The physical exercise includes running, brisk walking, aerobic exercise including practice of *Yoga asanas*. *Yoga* philosophy is closely associated with Āyurveda. It is the science which teaches to control the activities of the mind in a systematic order and helps in development of one's physical and mental health. To promote health, *Yoga* practice is very essential.

Table 8.1 General Principles of Treatment of Doshas

Vāta	*Pitta*	*Kapha*
— The general localization of *Vāta* as a whole is in the lower abdominal cavity and in the extremities, but the 'root' or *Vāta* is in the colon. This is a very important fact for herbal therapy because, obviously the colon is the field in which the main battle to eliminate any excess of *Vāta* will have to be fought.	— Increased *Pitta* is initially treated by using diet and medicinal herbs tasting bitter, sweet and astringent. Food having these tastes are cooling and stabilizing.	— To counteract an excess of *Kapha* medicinal plants and food which are pungent, bitter and astringent are used, owing to the fact that their properties are intensifying, heating and drying. Examples of these are garlic, pepper, ginger, mustard seed and plants containing volatile oils.
— A good regulating influence on *Vāta* is exerted by heat, oil and massage therapies.	— Sweet substances like sugarcane juice and coconut milk help in liver function upset. Cool, pleasant and stress free surroundings make therapy more effective.	— Exercise and plenty of movements and exertions help to reduce *Kapha*.

(Contd)

Vāta	*Pitta*	*Kapha*
— Rest and relaxation are simple therapeutic measures for calming *Vāta*.	— As a therapy for weak *Pitta*, all those factors are employed which have same properties as *Pitta* promoter and which will strengthen it.	— All things that promote *Vāta* and *Pitta*, reduce *Kapha*.
— For weakened *Vāta* use everything that has same properties as *Vāta*, used as *Vāta* strengthener.	— A cleansing therapy is indicated as the initial therapy when *Pitta* is overly strong, provided the patient is not too weak. Expectant mothers and children are also exempted from this treatment.	— Excess of *Kapha* is expelled by the use of emetics as the root of *Kapha* lies in the stomach.
— The patients are always cleansed of any excess of *Doshas*, and is not attemped in acute illness and patient if not too weak.	— Since the root of *Pitta* lies in the small intestines, laxatives are the appropriate cleansers. As has been said 'A hot cools down once the fire inside has been raked out'.	— Out of all measures, emetic therapy is the treatment *par excellence* for the cure of diseases due to *Kapha* because immediately after entering the stomach, it strikes the very root of the vitiation of *Kapha* and when it is overcome in the stomach, even the entire vitiated *Kapha* dwelling in other parts of the body is automatically alleviated.
— *Vāta* disorder is eliminated by means of an oil enema combined with plant extract. The purpose is to deal with the root of the disturbed *Vāta* in the colon and then the disturbed *Vāta* in the other parts of the body settles down.	— When the *Pitta* in the duodenum is brought under control, the aggravated *Pittas* at all other places of the body also automatically calm down.	— This can be linked to the withering away of paddy, barley, etc., for want of the barrier of the cornfield (full of water) being broken (CS. Su. 20). As sites of *Kapha* is both in chest and stomach as already discussed.
— This can be compared to the cutting of roots of a tree which results in the automatic destruction of the trunk, branches, sprouts, flowers, fruits, leaves, etc. (CS. Su. 20).	— This can be compared to a hot chamber cooled by removing fire from inside (CS. Su. 20).	

9

Ancient Indian Body Purification Therapy: The Panchakarma Therapy

This body purification therapy in Ãyurveda is known as *Panchakarma* Therapy. At present it is becoming popular in the west as Body Purification and Herbal Massage Therapy.

This therapy is one of the important therapeutic procedures in Ãyurveda which expels body impurities in chronic diseases like arthritis, neuralgic disorders, etc. After following this procedure when medicines are given, they work very effectively. Many clinical trials have been conducted with encouraging results at Benaras Hindu University, Gujarat Ãyurveda University and Ãrya Vaidyasala at Kotakkal. The latter is the oldest and well organized centre in India having a beautiful natural environment.

There are a few texts in English which discuss the theoretical aspect of *Panchakarma* Therapy more and are least concerned with the practical aspect.

The classical texts of Ãyurveda also rarely discussed the practical procedures, but this *Panchakarma* Therapy has been practised since long in the southern part of India. Still many call it as Keralã Art. For a long time its practical aspect remained a secret in Keralã State.

Lately, the *Panchakarma* Therapy has become quite popular in this country and abroad. There are more than a hundred centres abroad practising this procedure.

We do not find this body purification therapy in any other medical system. It is a science and art which requires techniques and knowledge before being put to practice.

Panchakarma Therapy is very useful in treating chronic diseases especially, rheumatic and neurological disorders and is also widely used for rejuvenation of the body for maintaining good health.

Many of the modern therapeutic Health or Spa centres are incorporating this therapy by following or modifying its principles and techniques. Even in Kovalam and Goa beaches this therapy is offered as Herbal Massage along with yogic exercises to tourists.

Massage is one aspect of this therapy and is of various types to suit individual's physical and mental needs. It is a wonderful experience for the body and mind. One of the primary and immediate benefits of massage is relaxation. Massage relieves tension, stress, alleviates pain

and flushes out body toxins. Different massage treatments help in curing arthritis, gout, sciatica, polio, spondilitis, sinusitis, paralysis, migraine, insomnia, backache, psychosomatic diseases and disorders, etc. Massage can cure some diseases at very initial stage without intake of any medicine. It helps to increase body resistance power. After a massage the whole body is revitalized and is active for work. It has no side-effects.

Panchakarma Therapy is used as Āyurvedic way of specialized massage with herbal medicines for rejuvenation and health promotion, for relief from mental stress, to sharpen memory, to reduce body fat, to improve skin tone and to kill all types of pain which helps one have a good sleep.

HOW THIS BODY PURIFICATION THERAPY WORKS?

The three bioregulating principles in the body, *Vāyu, Pitta* and *Kapha* are concerned mainly with the regulation of vegetative functions inside the human body.

The main seat which principally exists in the body for *Vāta* principle is *Pakvāsaya* (intestines) below the navel region, for *Pitta* is *Nabhi* (umbilical) region and for *Kapha* in the *Uras* (above the chest) region.

The vitiated *Doshas* may cause certain diseases in the *Kostha* (alimentary tract), different *Sandhis* (joints), *Marmas* (vital parts of the body) and *Sākhās* (any of he body Tissues or *Dhātus* like muscle, fat, bones, marrows, etc.).

A disease in the *Kostha* (alimentary tract) may easily be eradicated. The same disease if in the *Sākhās* (tissue of the body) takes a longer time to be cured with much difficulty. A disease with its base in the *Marmas* (vital parts of the body like heart, kidney, etc.) or *Asthis* (bones) takes still longer time or may not get cured at all.

Radical cure depends upon the *Dosha* or *Doshas* coming to the *Kostha,* the alimentary tract from different parts of the body. It has to be brought there so as to be easily eliminated from there.

Swedanakarma (fomentation) preceeded by *Snehanakarma* (oleation and massage) helps to bring *Doshas* which are stuck up in the *Srotas* (channels) to recede back into the *Kostha* (alimentary tract).

Swedana (fomentation) is the most potent of all the methods as it can melt small amount of *Doshas* stuck-up even in any of the very small or minutest *Srotas* (channels). In Āyurveda, *Nādi* means tract or conduit and *Srotas* means flow inside the conduit. Thus *Swedanakarma* (preceeded by *Snehakarma* without which it may even be harmful) causes the purification of the *Srotas* (channels) and brings back into the *Kostha,* any of the *Doshas* remaining in the *Srotas* of the *Sākhās* (tissues of the body). By *Nirooha Vasti* (enema with herbal decoction), *Vamana* (vomiting), *Virechana* (purgation) or *Nasya* (nasal errhines) makes treatment less complex.

It is stated that, without performing *Snehanakarma* and *swedanakarma,* (together known as *Purvākarma*), the *samsodhana* (purification) or *Pradhāna* (main or primary) *Karma* (i.e. *Vamana, Virechana, Vasti, Nasya*) should not be done. In *Samsodhana* treatment without previous administration of *Sneha* or *Sweda-Karma,* one's body persists like a dry stick, which breaks down when it is bent without proper lubrication and heating. So *Snehana* (oleation of the body and

Swedana-Karma (formation of the body) plays an important part in the *Sodhana* process (purification) of the body.

PANCHAKARMA THERAPY

Panchakarma Therapy has been extensively discussed in the Charaka Susruta and Vagbhatas texts. In Ãyurvedic classics this Therapy is stated to eradicate diseases permanently from the roots, so that a relapse does not occur. *Panchakarma* is a quick result giving process. It is an over-oiling process of the excessively tired human body. *Pancha* means five and *Karma* means procedures.

Panchakarma Therapy is an integral part of Ãyurveda and with the advancement of the *Rasa*-Therapy (dealing with metals and gems), decline in this practice took place. The most of the practice developed today are for olefication and fomentation of the body. Nowadays, it is quite popular and expensive therapeutic measure and is best given in a hospital, health resort or in an health village under proper supervision.

Early references of the prevalence of this practice during Buddhistic period are also available. Its actual development is observed in *Charaka Samhitã*, where this term *Panchakarma* is used. Details are available both in *Charaka* and *Susruta Samhitã* but later it was developed by Vãgbhata as observed in the *Astãnga Hridaya.*

Panchakarma Therapy as a subject has been discussed in separate chapters in the following texts:

Hãrita-Samhita, Bhela-Samhitã, Kãshyapa-Samhitã, Bhãvaprakãsha, Chakradatta, Sãrangadhara Samhita, etc.

Panchakarma means five types of therapeutic actions or methods. According to Susruta these five types are:

Table 9.1

1.	Vamana	Process of causing emesis
2.	Virechana	Purgation to expel faeces
3.	Vasti	Enema to push medicines in colon
4.	Nashya or Shirovirechana	Errhines
5.	Raktamokshana	Blood-letting to expel blood out of the body

Charaka enumerated the following procedures, namely 1. *Vamana,* 2. *Virechana,* 3. *Anuvãsana Vasti,* 4. *Niruha* (or *Asthãpana*) *Vasti,* and 5. *Shirovirechana* (or *Nasya*). But Susruta used a single term *Vasti* for both *Anuvãsana* and *Niruha Vasti* and added *Raktamokshana* (or *Shirãmokshana*) as the fifth process under *Panchakarma* therapy, by seeing its surgical importance. *Vasti* is usually given through anal region, but when given through urethra or vagina, it is then called *Uttara-vasti.*

Susruta (SS. Su. 13) mentioned body purification methods (*Samsodhana Karma*) under three heads:

1. *Purva Karma*
2. *Pradhãna Karma* and
3. *Paschãta Karma*

This has been elaborately described by the commentator of Susruta Samhitã, Dalhana (SS. Ka. 4). He described it as follows:

1. *Purva Karma* constitute *Dipana*, *Pãchana*, *Snehana* and *Swedana*. To prepare the body of a patient, *Purva karma* is done to loosen the stickiness of the *Doshas*, the bioregulating principles in the various parts of the body.
2. *Pradhãna karma* is the main treatment procedure, which includes *Vamana*, *Virechana*, *Vasti*, *Nasya* and *Sirãmokshana*.
3. *Paschãta karma* is done after the main therapy for the promotion of *Balà* (strength), *Varna* (colour) and *Agni* (digestive fire). After completion of the *Pradhãna karma*, patient feels a little weak and to remedy that *Paschãta karma* is done. *Paschãta karma* mainly deals with the dietary regimen when *Peyã*, *Vilepi*, *Yusha*, etc. are given. This is followed by giving *Rasãyana* (tonics) and *Vãjikarana* (drugs toning sex organs) This is then followed by *Shamana dravyas* like *Rasayana dravyas*, *Aswagandhã*, *Satãwar*, *Musli*, *Bidãrikand*, *Amlã*, *Haritaki*, *Guduchi*, *Pippali*, *Balã*, *Haritaki Shitãjit*, *Abhrak kalpa*, etc. So, the *Paschãtkarma* is the diet regulation measure along with the *Samsamana* of *Doshas* in the body.

Vãgbhata said, actual administration of the *Samsodhana* measures should start after preparing the patient with *Dipana, Pãchana, Snehana* and *Swedana* process. For the digestion of the *Doshas, Trikatu, Sankhvati, Chitrakãdi Vati, Jirakãdi Kwath,* etc., and for *Pãchana, Agni-Dwipana,* the digestive fire stimulating medicines are used.

Samsodhana (purification) measures should not be carried out without prior administration of *Purva karma,* because only mere *Samsodhana* (i.e., *Pradhana*) *karma* measures cannot eradicate *Doshas,* the impurities of the body (AH. Su. 13).

In *Purva karma,* the digestive function is brought in order by giving *Pãchana* (digestive) *dravyas* before *Snehana* and *Swedana* is done. *Snehana* (oleation) is done in two ways, internally (through oral route) and externally (by application of oil on the skin and massage). *Ghrita* (clarified butter), *Taila* (oil), *Vasã* (fat) and *Majjã* (marrow) are used for this purpose.

Nowadays mostly *Ghrita* and *Taila* are used for this purpose. For *Snehapãna* (taking oily substance orally) purpose *ghrita* is usually given before meals when there is little appetite For *Sodhana* purpose more *Sneha* is given with the food for 3 to 7 days (AH. Su. 16; CS. Su. 13). External or *Bãhya-Snehan* is done by *udvartan* (by applying medicated paste all over the body) *mardana* (massage), etc. *Swedana* is a process by which body is made *Snigdha* (oily, smooth and viscous).

Swedana is done to remove stiffness, heaviness and cold feeling of the body (CS. Su. 22). Sweating is produced by giving various types of Sweda (fomentation) known as *Tãpasweda, Usmãsweda, Upanãhasweda* and *Dravasweda* (SS. Ch. 31; AH. Su. 17). The *Sweda* mentioned by Charaka, *Shankarasweda, Prastarasweda, Bhusweda, Kuthirsweda, Holãsweda,* etc., are all covered under the above four types of *sweda* (fomentation) procedures.

Swedana of different types are given for various types of ailment (diseases) in the form of *Bãspasweada* (steam fomentation) with *Dashmula* (ten types of medicinal plant roots), *Sasticsãli*

Pindasweda, Pizichichil, Nirgundi Patrapinda Sweda, Nādi-sweda, Avagāha-sweda, etc. It has been observed at Akhandānand Āyurveda Hospital at Āhmedabad. Where more than thousand cases were treated with excellent results for poliomyelitis and especially fresh cases where many complete recoveries took place by giving *Sasticsāli-Pinda-Sweda* alongwith medicated herbal decoction enema in the form of Mātra Vasti. In Banaras Hindu University, in 1992, it was also observed that *Sasticsāli-Pinda-Sweda* used for treatment *Āmavāta* (rheumatism) reduced ESR remarkably to the lowest indicating reduction in causative factors remarkably.

Pizichil is similarly, another method of *Swedana* which showed excellent results in *Pakshāghāta* (hemiplegia), paralysis of the half portion of the body. *Pizichil* is a *Snehadhāra* (where excess warm oil is poured over the body) where *Snehana, Abhyanga* (massage) and *Swedana* is done. It gave good results when given *Virechan* (purgative) *Gandharva Hastādi Kwātha* daily along with it.

Patrapinda-sweda is a very simple and cheaper method of treatment. Here fomentation is done with leaves of *Nirgundi, Eranda, Syonāka, Nimba,* etc. as *Vātahara* leaves. In Akhandānanda Hospital, Ahmedabad, excellent results have been seen in the treatment of *Gridhrasi* (sciatica) and *Katisula* (backache). In these types of cases along with this *Madhutailik Vasti,* a special type of decoction enema were given which benefited as many as 80 per cent cases.

Kativasti is another process of *Swedana* used for the treatment of backache and sciatica cases.

Baspasweda (steam fomentation) is often done with *Dasmul Kwātha* and benefit people having *Sarvāngavāta* (pain all over the body) *Pakshāghata* (hemiplegia), *Kampavāta, Medogata-Vāta, Māmsagata Vātaroga.*

Application of oils on head also comes under Snehana and Swedana procedures. Two processes are commonly used—*Shirovasti* and *Shirodhārā*—for sleeplessness, people with excessive mental stress, lack of proper functioning of the limb joints, headache and migraine, diseases of ear, nose, throat and eyes, sinusitis, etc.

These procedures also alleviate the derangement of the three *doshas* and improve the power of sensory organs.

Shirodhārā is the process in which medicated oils, milk, butter-milk, etc., are used and poured on the forehead of a patient lying in a specific posture. This therapy is very useful for people doing excessive mental work and busy business executives. This specialised therapy is not available in any other form of medication. Benefits of *Shirodhāra* have been observed in many cases at moolchand Kheratiram Hospital and Āyurvedic Research Institute, Delhi in the year 1984-85. When warm oil falls on the forehead for 30 to 45 minutes, it does vasodilatation of the blood vessels on forehead and later vasodilatation of the blood vessels inside the brain, due to which more nourishment and more oxygen reaches there, due to which tired and sick nerve cells get toned up and result in improvement in the nervous system takes place.

This procedure of *Shirodhāra* is not observed in use in any other type of medical therapy. This therapy has shown excellent results in many many cases though how exactly it works was not known.

In cases having high blood pressure warm oils are not used and contra indicated where cold *Takra-dhāra* is indicated.

Panchakarma therapy is a specialised art and needs a lot of practical therapeutic experience though techniques may seem simple. In *Taila* (oil) *Dhara* the oils commonly used are *Yastimadhu-taila, Dhanwantara* (or *Balã*) *Taila, Satãvari Taila, Chandanbalã-Lãksãdi Taila, Kshirbalã-taila,* etc. In practice generally *Yastimadhu* or *Kshirbalã-Taila* is commonly used. In a seven day procedure usually 2.5 litres of oils are used. Out of these about, 1.5 litres is utilized on the very first day.

In brief, the uses of *Snehana* (*Ghee* and oily substances) are as follows:

1. *Snehapãna* (orally *Ghee* or oil is given before starting *Swedana*)
   For *Snehapãna* 30 gms of *Sneha*, Ghee is given on the first day as a test dose. It is increased according to the *Bahyah* (age) , *Kostha* (bowel condition), *Prakriti* (temperament) and *Roga* (disease) of a person. It is given minimum for three days and maximum for seven days. More than this, it is usually not given.

(a) Orally these drugs are given in skin diseases.
   (i) *Tiktaghrita* (BR)
   (ii) *Mahãtiktaghrita* (BR)
   (iii) *Brãhmighrita*

(b) Orally these drugs are used in *Unmãd* (insane) and *Apasmar* (epilepsy), etc.
   (i) *Kalyãnak ghrita*
   (ii) *Sãraswat ghrita (chikitsã Pradip)*
   (iii) *Brãhmi ghrita*

(c) Orally oils used for *Vãta vyãdhi*, paralysis, etc.
   (i) Til oil

2. For Massage: oils (*Taila* or *Tel*) used externally are:

(a) For *Kaphapradhãn* disorders
   (i) *Sahacharãdi* Tail (AH. Sh. 21)

(b) For *Pittapradhãn* disorders
   (i) *Kshirbalã Tail* (CS. Ch. 29)
   (ii) *Chandanbalã Tail* (*chikitsã Pradip*)
   (iii) *Mahãmãsh Tail* (BR)

(c) For *Vãtapradhãn* disorders
   (i) *Dhanwantara* (or *Balã*) *Tail* (AH. Sã. 2)
   (ii) *Mahãnarãyan Tail* (BR)
   (iii) *Mahãmãsh Tail* (BR)

3. *Sneha-vasti* (enema) for *Anuvãsana Vastikarma*
   (i) *Ghee* (clarified butter)
   (ii) *Chandanãdi Tail*
   (iii) *Padmakãdi Tail*
   (iv) *Nãrãyan Tail* (BR)
   (v) *Sahachar Tail* (AH. Ch. 21)
   (vi) *Kshirbalã Tail* (CS. Ch. 29)
   (vii) *Dhanwantara Tail* (AH. Sã. 2)
   (viii) *Satãvari Tail*

Table 9.2 Charges for various procedures used in Panchakarma Therapy at Delhi in the year 1996 (on average basis)

S.No.	Name of Treatments	Duration (Days)	Charges for Treatment (in Rupees)
1.	Sarvānga Abhyanga	7	850
2.	Shirodhārā		
	(i) Tailadhārā	7	2,100
	(ii) Takradhārā	7	1,400
3.	Patra-Pinda Sweda		
	(i) One limb	7	500
	(ii) Two limbs	7	800
	(iii) Full body (more than two limbs)	7	1,200
4.	Shastic-shāli Pinda Sweda (Navarakhizi)		
	(i) One limb	7	1,200
	(ii) Two limbs	7	1,400
	(iii) Full body	7	1,750
5.	Shrovasti	7	1,500
6.	Annalepanam	7	1,750
7.	Pizhichil including Vasti	14 + 8	12,000
8.	Sarvānga Vāspa Sweda	7	900
9.	Ekānga Vaspa Sweda		
	(i) One limb	7	500
	(ii) Two limbs	7	750
10.	Ekānga Dhara	7	1,000
11.	Kati Vasti	7	1,750
12.	Avagāha Sweda	7	850
13.	Niruha Vasti (N)	Per Day	200
14.	Anuvāsana Vasti (A)	Per Day	125
15.	Yoga Vasti (5A + 3N)	8	1,200
16.	Kāla Vasti (12A + 6N)	18	2,750
17.	Karma Vasti (18A + 12N)	30	4,600
18.	Nasya	7	500
19.	Snehapāna	Full Course	350
20.	Vamana Karma	Full Course	700
21.	Virechana Karma	Full Course	700
22.	Uttar Vasti	7	850

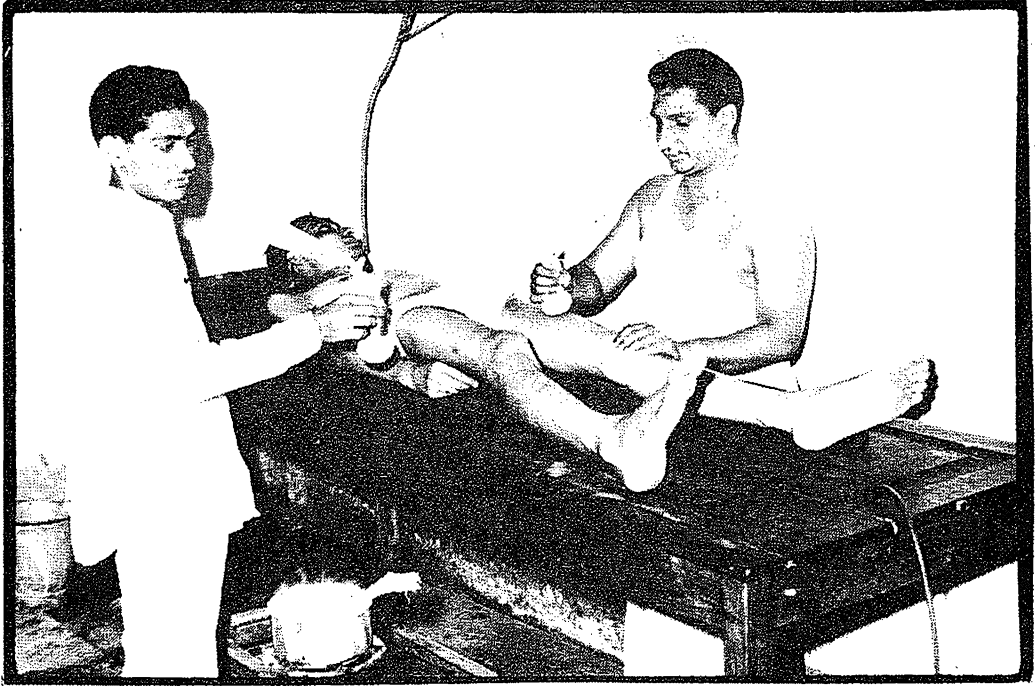


Fig. 9.1 *Swastika-shāli Pinda Sweda*

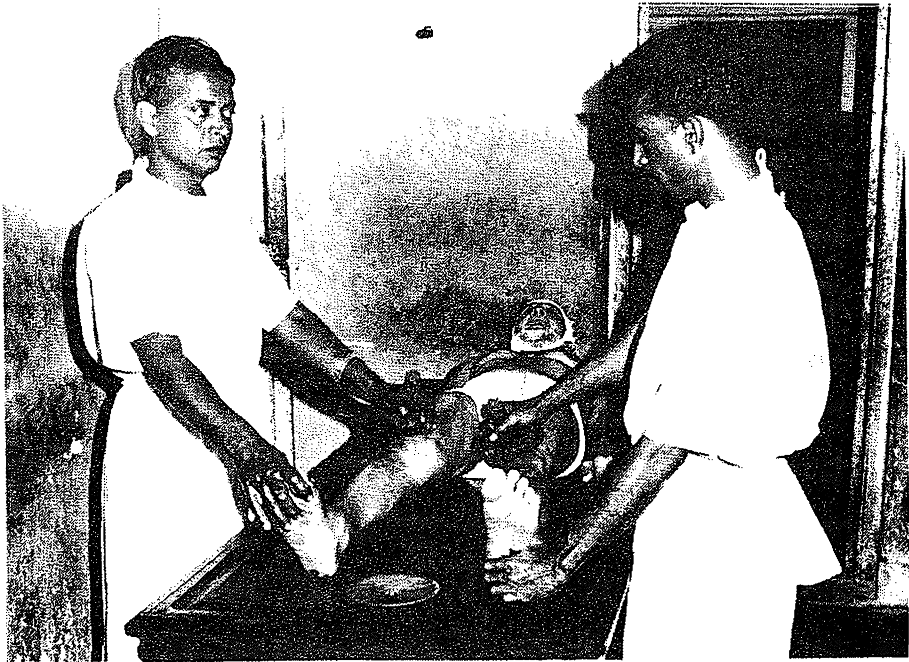


Fig. 9.2 *Pinda Sweda*

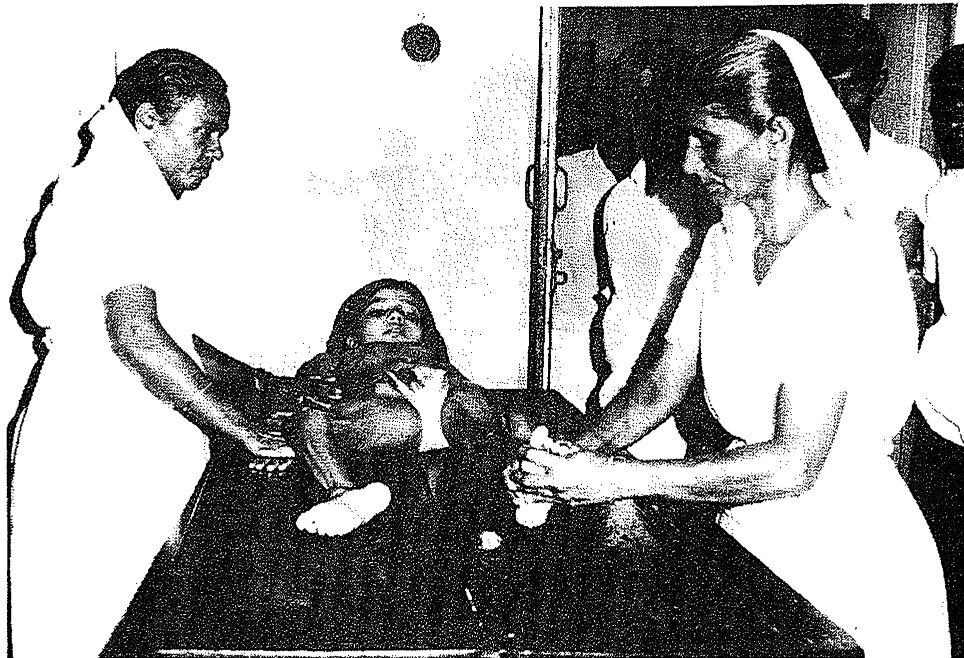


Fig. 9.3 *Navarakhizi*



Fig. 9.4 *Snehana*



Fig. 9.5 *Avagāhana* (Medicated Decoction Bath)



Fig. 9.6 *Pizichil*

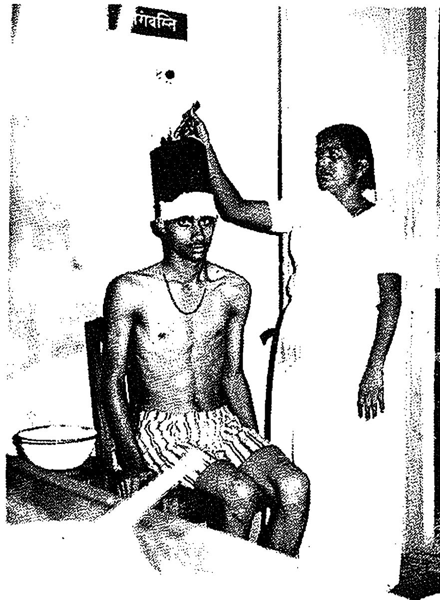


Fig. 9.7 *Shirovasti*



Fig. 9.8 *Shirodhāra*

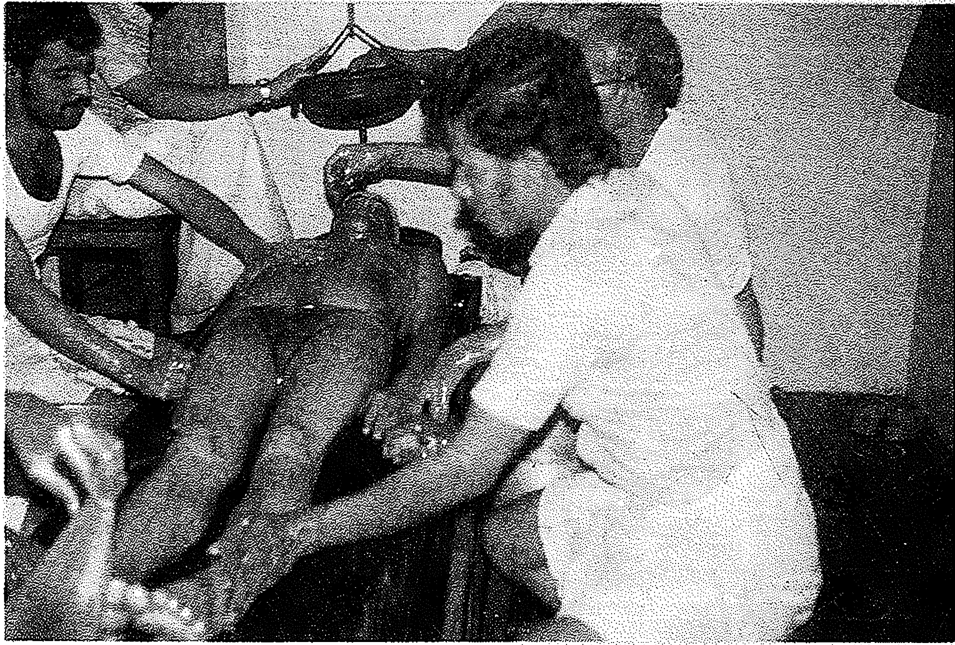


Fig. 9.9



Fig. 9.10



Fig. 9.11



Fig. 9.12

Pizichil procedures with Shirodhāra done are usually done by 6 to 7 persons at a time (Figs 9.9–9.12)

10

Pharmaceutical Preparations Used in Ãyurvedic Therapy

Ãyurveda is a storehouse of knowledge. In addition to the medicinal plants and herbal products, the products of metals, salts, gems and poisons are also used in a very large scale for therapeutic purposes. There are plenty of formulae, for herbal and natural products in Ãyurveda.

Manufactures of Ãyurvedic medicines in India are being riding an unprecedented high, with the export market for Ayurvedic products wide open. Chemists who would not have touched Ãyurvedic medicines a few years back are now embracing them.

Researches and recent studies at the National Institute of Immunology have found more than seven Ãyurvedic Medicinal plants capable of boosting the Immune system. Ãyurveda is today using modern pharmaceutical technology to produce medicines in user friendly forms as fine powders, capsules, tablets and syrups.

It is not only at home that Ãyurvedic medicines are making waves. Interest in Indian medicine is growing globally. Millions of dollars are being allocated to study the medicinal properties of plants like *Neem, Sarpagandhã, Guggulu, Tulsi* and many others. A cancer hospital in Bonn is currently setting up an Ayurveda unit with the help of Kidwãi Institute of Oncology and the Harvard Medical School is conducting a study on Ãyurvedic diagnostics. England will soon have *yoga* therapists and Ãyurvedic doctors in many hospitals and there are groups in Germany, USA, UK, Australia and Japan, who want to study Ãyurveda in its original form. Even famous salesman of Indian traditions, *Maharsi Mahesh Yogi* is capitalising on the trend by opening Ãyurveda centres worldwide. Already he has set up more than 100 Ãyurvedic centres in America and Europe, with plans afoot to open a 5000 bed Ãyurvedic Hospital in America.

Its all part of a new health consciousness that's sneaked into people, world over.

The emphasis is on staying healthy, building the immune system strong and using healthy healing methods.

In Ãyurveda, presently about 1,000 single drugs and 8,000 compound formulations are of recognized merit. Ãyurveda in India, still continues as the largest system of medical relief for the masses and covers 60 to 70 per cent of the population.



Fig. 9.12

Pizichil procedures with Shirodhāra done are usually done by 6 to 7 persons at a time (Figs 9.9–9.12)

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Ãyurvedic compound formulations are divided into two groups:

1. *Kãsthausadhi* (predominantly plant drugs)
2. *Rasausadhi* (predominantly metals and minerals)

There are many authentic books on compound formulations in addition to the classical texts *Charaka Samhita, Susruta Samhita, Astanga Samgraha* and *Astãnga Hridays*. The other books are *Chakradatta, Sãrangadhara Samhitã, Yogaratnãkara, Bhaisajya-Ratnãvali, Brihat-Bhaisajya Ratnãvali, Sahasrayogam*, etc., which deal with both the groups of formulations. Others like *Rasatarangini, Rasayogasãgara, Ãyurveda-Prakãsha Rasa-Ratna-Samucchaya, Rasendrasãra Samgraha*, etc., deal only with the *Rasausadhi* groups.

There are several categories of *Kãsthausadhi* formulations. They are as follows:

1. *Ãsava-Arista*
2. *Arka*
3. *Avaleha* and *Pãka*
4. *Kwãtha churna*
5. *Guggulu*
6. *Ghrita*
7. *Churna*
8. *Taila*
9. *Lavana Kshãra*
10. *Lepa*
11. *Vati Gutikã*
12. *Varti*, *Anjana* and *Netrabindu*
13. *Sattva*

There are *Rasausadhis* like:

14. *Pisti*
15. *Bhasma*
16. *Parpati*
17. *Mandura*
18. *Lauha*
19. *Kupipakva-Rasãyana*
20. *Rasayoga*

Here source material is the '*Ãyurvedic* formulae of India' (part I), Government of India.

1. ÃSAVA AND ARISTA

This type of medicinal preparations are made by soaking the drugs either in powder or in decoction (*Kasãya*) forms in a solution of jaggery (*Gur*) or sugar, as the case may be, for a specified period of time. During the specified period it undergoes a process of fermentation and generates alcohol which facilitates the extraction of the active principles contained in the drugs. The alcohol thus generated also serves as a preservative. *Ãsavas* and *Aristas* can be kept for indefinite period. Many like to use it as a herbal wine which westerners like very much. Examples of such preparations are *Drãkshãrista, Asokãrista, Aswagandhãrista, Lohãsava, Kumãryãsava*, etc. Its usual dose is 30 ml twice daily after meals.

2. ARKA

This is a liquid preparation obtained by distillation of certain liquids or drugs soaked with water. *Arkayantra* or any convenient modern distillation apparatus is used. It is a suspension of the distillate in water having slight turbidity and colour according to the nature of the drug or drugs used and the smell of predominant drugs. Examples of such preparations are *Ajmodarka, Jatāmāmsyārka, Satapuspārka,* etc.

3. AVALEHA AND PĀKA

These are semi-solid paste like preparations of drugs prepared by adding jaggery or sugar and boiled with prescribed juice or decoction. The colour and smell depends on the drugs used. Normally *Avalehas* should be consumed within one year period. Examples of such preparations are *Cyavanprāsa, Vāsāvaleha, Kantakāryāvaleha, Agasta Haritaki Rasāyana,* etc. Usual dosage is 6 to 12 grams.

4. KWĀTHA CHURNA

Here certain drugs and combination of drugs are made into coarse powder into the form of *Javkut* (coarsely powdered) and kept for preparation of decoction (*Kasāya*). Such powders are called *Kwatha-churna.* These *Kwatha-churna* retain potency for one year and are kept in a tight container. *Kwatha-churna* can be used for the preparation of *Hima, Phānta* (infusions), etc. also. These preparations are consumed on the same day of preparation. Examples of such preparations are *Gandharvahastādi, Dasamula, Patolādi, Punarnavāstak, Rāsnāsaptak, Brihatmanjisthādi Kwātha-churnas,* etc. Usual dosage for decoction preparation is 10 to 25 grams.

5. GUGGULU

It is an exudate obtained from the plant *Commiphora mukul.* Its preparations have this exudate as the main effective ingredient known as *Guggulu.* Before its use, it is purified by a special process by boiling with other medicinal plants. After filtering it, it is boiled again till *Guggulu* becomes a soft mass. This is called *Sodhita* (purified) *Guggulu.* This mass is dried under the sun rays and later it is pounded into a paste in a stone morter by adding clarified butter (*ghee*) in small quantities till it becomes waxy. The purified *Guggulu* is soft, waxy and brownish-black in colour. Characteristics of preparations of *Guggulu* vary depending on the other ingredients added to the preparations. The potency of these drugs are maintained for two years when prepared with ingredients of plant origin and indefinitely when prepared with metals and minerals. Examples of such preparations are *Yogarāj Guggulu, Kānchnār Guggulu, Lākshā Guggulu, Vātāri Guggulu, Navak Guggulu,* etc. The usual dosage is 1 to 2 grams taken with warm water.

6. GHRITA

These are preparations in which *Ghrita* or *Ghee* (clarified butter) is boiled with prescribed *Kasayas* (decoction) and *Kalkas* (pastes) of drugs according to the formulae. *Ghrita* preparations for internal use retain their potency for about 16 months. It is generally taken with warm water or

milk. The *Ghrita* has to be taken after warming it. This is taken with other warm liquids also. Examples of such preparations are *Panchatikta Ghrita Guggulu, Brãhmi Ghrita, Panchatikta Ghrita, Triphalã Ghrita, Phala Ghrita,* etc. Usual dosage is 6 to 12 grams.

7. CHURNA

These are fine powder of drug or drugs mixed together. These preparations are most commonly used in Āyurveda. These powders are fine and at least of 80 mesh sieve. They retain their potency for one year and are kept in an air tight container. Examples of such preparations are *Triphalã Churna, Sitopalãdi Churna, Sudarsana Churna, Nimbãdi Churna, Chandanãdi Churna, Hingwãstak Churna,* etc. Usual dosage in 1 to 4 grams.

8. TAILA

These preparations are those in which *Tel* or *Taila* (oil) is boiled with prescribed *Kãsãyas* (decoctions) and *Kalkas* (pastes) of drugs according to the formulae. These preparations for internal use retain their potency for 16 months. *Tailas* are generally used for *Abhyanga* (massage). Some of them are used internally, through oral route or enema given through anal route as *Vasti* also. It is taken with warm water or warm milk. Examples of such preparations are *Gandharvahasta, Dhanwantara* (or *Balã*), *Nãrãyana, Mahãmãsha, Kshirbalã, Sadabindu Taila,* etc.

9. LAVANA KSHÃRA

These preparations are alkaline substances obtained from the ash of the burned drugs. *Kshãra* is usually white in colour. When exposed to atmosphere, this becomes moist and therefore should be kept in air-tight bottles. These last for indefinite period. The taste is salty and that is why the term *Lavana* has been used. Examples of such preparations are *Apãmãrg Kshãra, Narikel Lavana, Muli-kshãra, Yava Kshãra, Vãsã Kshãra, Sajjikshãra,* etc. Usual dosage is 0.5 to 2 grams.

10. LEPA

Here medicines are used in the form of a paste for external application. The drugs are converted into fine powder before use on the body. They are mixed with some liquid or other medium indicated in each type of preparation and made into a soft paste. Water, oil and ghee are some of the media used for mixing. Vegetable *lepa-churna* retain their potency for 30 days if kept in air tight containers. Mineral and metallic preparations last for indefinite period. Examples of such preparations are *Dasãnga-lepa, Sothagna-lepa, Sindurãdi-lepa,* etc.

11. VATI AND GUTIKÃ

Here medicines prepared are in the form of tablets or pills known as *Vati* or *Gutikã*. These are made of one or more drugs of plant, animal or mineral origin. Pills retain their potency for two years and pills containing minerals can be used for indefinite period. Pills and *Vatis* should not lose their original colour, smell, taste and form. When sugar, salt or *Kshãra* is one of the ingredients, then the pills should be kept away from moisture. Examples of such preparations

are *Agnitundi Vati, Chandrapraphā Vati, Chitrakādigutikā, Lasunādi Vati, Sanjivani Vati, Sankh Vati,* etc.

12. VARTI, ANJANA AND NETRABINDU

These medicines are used externally for the eye. *Vartis* are made by grinding powders with the fluids as specified in the formula to form a soft paste. This is made into thin sticks of about 2 cm in length and dried in shade. *Anjanas* are very fine powders of drugs to be applied with a *netra-salākā* (eye sticks). *Netrabindu* is prepared by dissolving specified drugs in water or decoctions and used as eye drops. Colour and smell depends on the drug used. These can be preserved for one year in an air tight container. Formulations having minerals are preserved for indefinite period. Examples of such preparations are *Chandrodaya Varti, Muktādi Mahānjana,* etc.

13. SATTVA

This is water extractable solid substance collected from a drug. Here drugs are cut into small pieces, macerated in water and kept over-night. Then it is strained through a cloth and solid matter is allowed to settle. The supernatant liquid is decanted and the *Sattva* is washed by repeating the process by adding water and decanted. The *Sattva* so decanted is allowed to dry and powdered. The colour various form drug to drug. An example of such a preparation is *Guduchi-sattva.* Usual dose is 0.5 to 2 grams.

14. PISTI

These are prepared by triturating the drug with the specified liquids and exposing to sun or moon light. After purification (*Sodhana*), the drug is put in a morter and triturated generally with the liquid for a day and dried in the sun for another day. This process is generally continued for seven days or more till the fine *Pisti* in powder form is obtained. The colour of the *Pistis* depends upon the colour of the drug used. They are as fine as *Bhasma* (incinerated powders) and have the characteristics of the *Bhasma.* They preserve their potency for indefinite period. Examples of such preparations are *Pravālpisti, Muktāpisti, Muktāsuktipisti, Mānikyapisti, Trinakāntamani* (*kaharubā*) *pisti,* etc. Usual dose is 125 to 250 mg.

15. BHASMA

Bhasma is the powder of a substance obtained by calcination. It is applied to the detoxified metals, minerals and animal products, which are by special processes, calcined in closed crucibles in pits and with cowdung cakes called *Puta-pāka.* The methods of preparation are as follows:

First stage (Sodhana) In Ayurveda the process of purification is called *Sodhana.* Chemical purification is different from medicinal purification. In chemical purification only elimination of foreign matter takes place. In medicinal purification the basic objectives are to eliminate harmful matter from the drug to modify the undesirable physical properties of the drug, to

convert some of the characteristics of the drugs and to enhance the therapeutic action, therapy potentizing the drug.

The *Sodhana* (purification) method is of two types:

(i) *Sāmānya Sodhana*, which is applicable to a large number of metals and minerals. Thin sheets of the metals are heated and immersed in *Taila* (oil), *Takra* (buttermilk), *Gomutra* (cow's urine), etc.
(ii) *Visesha Sodhana*, which is applicable only to certain drugs and in certain preparations. *Visesha* (special) *Sodhana* consists of *Bhāvanā*, *Swedana*, *Nirvāpana* and *Mardana*, etc. specialized processes.

Second Stage (Mārana) Here the purified drug is put into a stone mortar (*Kharal*) and ground with juices of specified plants or decoctions (*Kasāyas*) of drugs mentioned for a particular metal or mineral. It is ground (i.e., rubbed) for the special period of time. Then small cakes (*Chandrikās*) are made. The size and thickness of the cakes depends on the heaviness of the drug. The heavier the drug, the thinner are the cakes.

These cakes are dried well under sun light and placed in one single layer in a *Sarāva* (shallow earthen plate) and closed with another similar plate. The edge is sealed with clay-smeared cloth in seven consecutive layers and dried.

A pit is then dug in an open space. The diameter and the depth of the pit depend on the metal and mineral to be calcined. Half of the pit is filled with the *Uphlā* (cowdung cakes). This sealed earthen container is placed in it and the remaining space is filled with more cowdung cakes. Fire is put on all sides and in the middle of the pit. When the burning is over, this is allowed to cool completely.

In an experiment at Banaras Hindu University, it was observed that when the cowdung cakes are burned, the temperature rises gradually and at a certain stage it is maintained and then the temperature comes down gradually, due to which *Pāka* (digestion) of a substance takes place in an excellent way, which is not so when wood or coal is used for heating purpose.

The earthen container is then removed, the seal is opened and the contents are taken out. The medicine is ground into fine powder in a morter. The process of triturating with the juice, making *Chandrikās* and giving *Putas* (heat) is repeated as many times as prescribed in the texts or till the proper fineness and quality are obtained.

The *Putas* (heating process) are described under different names to indicate the size of the 'put' and the number of cowdung cakes to be used. They also indicate the amount of heat required and the period of burning. The following *Putas* are commonly used in the preparation of *Bhasmas* are *Mahāputa*, *Gajaputa*, *Varāhaputa*, *Kukkutaputa* and *Kapotaputa*. The characteristic tests for properly prepared *Bhasmas* are:

1. There should be no metallic lusture (*Nischandrikā*).
2. When taken between the index and thumb are spread, it should be so fine as to get easily into the finger lines.
3. When a small quantity is spread on still water, it should float on the surface.
4. And the *Bhasma* should not revert to the original state.

Bhasmas are useless unless specified in individual formulations, generally are yellowish, black, dark white, grey reddish, black and red in colour, depending upon the predominant drug as well as the other drugs used in the process of *Mārana*. *Bhasmas* retain their potency for indefinite period and have no characteristic tastes. Examples of such preparations are *Abharaka*

Bhasma, Tāmra Bhasma, Vanga Bhasma, Swarna Bhasma, Sankha Bhasma, Sringa Bhasma, etc. Usual dose is 60 to 250 mg.

16. PARPATI

These are *Rasa* (Mercury) preparations. The name is derived from the method by which flakes of the compound are obtained. Here *Kajjali* is prepared first with the purified Mercury (*Suddha Pārad*) and purified Sulphur (*Suddha Gandhak*). Other drugs mentioned in the formula are added one by one and mixed well by trituration in a *Kharala* (morter). The powder is put in an iron vessel and kept over fire in the *Sikatāyantra.* A shallow pit in fresh cowdung is made and a *Kadali* (banana) leaf or an *Eranda* (castor) leaf is spread over the pit. When the medicine melts and becomes liquid, it is poured on the leaf carefully. Another leaf is covered over it and fresh cowdung is spread and gently pressed. After it is allowed to cool, the flakes of the medicines are removed and powdered. It retains its potency for an indefinite period. Examples of such preparations are *Panchāmmrit Parpati, Rasa Parpati, Swarna Parpati, Bole Parpati, Tāmra Parpati,* etc. Usual dosage is 250 to 500 mg.

17. MANDURA

These preparations contain *Sodhita Mandura* along with other drugs. *Mandura* is purified by a special method and boiled in *Gomutra* (cow's urine) till it becomes a paste (*Rasakriya*). The powders mentioned in the formulations (*Yoga*) are added and stirred well, when warm pills are prepared. This can be kept in powder form also. They emit smell of *Gomutra* and are dark in colour. They preserve their potency for indefinite period. They are kept away from moisture. Examples of such preparation is *Punarnavā Mandur.* Usual dose is 250 to 500 mg.

18. LAUHA

There are preparations of *Lauha* where *Loha Bhasma* as main ingredient is added to other drugs. The drugs are reduced to fine powder first and then mixed with *Loha* (iron) *Bhasma. Bhavana* (rubbing) is given with prescribed liquid if mentioned in the text. The characteristic of the powder is that, it should be very fine and the *Bhasma* used should be well prepared. When well protected from moisture and heat, they retain their potency for a period of two years. Preparations containing Mercury or its compound keep their potency for an indefinite period. Examples of such preparations are *Dhātri Lauha, Saptāmmrita Lauha, Yakridarāri Lauha, Pradarāntaka Lauha, Pradarāri Lauha,* etc. Usual dose is 250 to 500 mg.

19. KUPIPAKVARASAYANA

Here *Rasausadhi,* the drugs of metallic and mineral origin are well mixed in fine powder form and usually placed in glass bottle called *Kāchakupi* 1/3rd full. Pieces of cloth smeared with clay are pasted around the bottle in seven consecutive layers. This is dried under the sun and then buried in *Bālukāyanatra* upto the neck. The glass bottle with drugs in it are heated in the *Bālukāyantra* gradually in three stages of *Agni* (fire); low, medium and high temperature for a specified period of time. A red hot iron rod is inserted into the *Kāchakupi* through its opening

and stirred often so that the opening of the glass bottle may not get choked by a thick coating of subliming sulphur, lest the pressure of the vapour may break the glass bottle. When the glass bottle gets cooled it is removed carefully from the *Bālukayantra* and is broken in the middle by tying a thread soaked in kerosene oil and putting fire on it. This breaks the glass bottle into two halves when a little cold water is sprinkled over it. The *Sindura* deposited at the neck of the bottle is separated and collected carefully so that no glass piece is mixed with it. The colour of the *Rasa* preparation may be according to the drugs used. Generally they are red, yellow or dark. They retain their potency for an indefinite period. Examples of such preparations are *Rasa Sindur, Makaradhwaja, Malla Sindur, Samir Pannag Ras, Swarnavanga, Swarna Sindur,* etc. Usual dose is 60 to 125 mg.

20. RASA YOGA

Here preparations contain mineral drugs as main ingredients. They are in pill or powder forms. They are mixed and triturated together. Drugs such as *Abhraka, Swarna, Rajata, Tamra, Mākshika,* etc., are used as *Bhasma* form in these preparations. Drugs such as *Gandhaka, Manahshilā,* etc., are used in purified form. When purified *Rasa* (Mercury) and *Gandhaka* are drug ingredients, *Kajjali* is first prepared by rubbing both together and the other drugs are added in small quantities and ground in the mortar (*Kharala*) itself and mixed well. *Bhavana* (Rubbing) with the prescribed *Swarasa* (extracted juice), *Kwatha* (decoction), etc. should be made for a prescribed period. The colour and smell depend on the drugs used in the formulation (*Yoga*). They retain their potency for an indefinite period. Examples of such products are *Yogandra Rasa, Ekāngbir Rasa, Arogyavardhini gutika, Chaturbhuja Rasa, Vrihat Vātachintāinani Rasa,* etc. Usual dose is 125 to 500 mg.

The above are the various procedures of preparing *Āyurvedic* drugs in various forms for therapeutic purposes.

11

Rasashãstra: Minerals, Metals and Gems in Ãyurvedic Therapy

Rasaausadhi are predominantly drugs of Minerals, Metals and Gems used widely in Ãyurvedic therapy as medicines for curative purpose and for promotion of health. Many books have been written on this subject and thousands of formulations are there. A small simple book on this subject is *Rasãmrita,* written by vaidya Yãdavji Tikramji. Here it is mentioned that these drugs are grouped under six sections. These are *Loha, Mahãras, Sãdhãrãn Ras, Uparas, Ratna* and *Uparatna.* Mercury (*Pãrada*) is the main ingredient in *Rasashãstra* and has been discussed separately.

1. ***Lohavarga***—has grouped the following six metals under it; *Suvarna, Roupya, Tãmra, Vanga, Nãga* and *Lauha.*
2. In ***Mahãrasavarga***—the text *Rasãrnav* have grouped eight of them. They are *Mãkshik, Vimal, Shilãjit, Chapal, Kharpar, Mayurtuttha, Hingul, Srotãnjan.* On the other hand Shomedev in *Rasendrachadãmani* mentions eight of them with a little variation from the above grouping. They are *Abhrak, Rãjãvarta, Vaikrãnt, Mayurtuttha, Vimal, Shilãjit, Tuttha, Mãkshik.*
3. ***Uparasavarga***—Here *Rasãrnav* mentions eight of them. They are *Gandhak, Hartãl, Mainsil, Fitkiri, Kãsis, Geru, Rãjãvarta* and *Kankustha. Rasendrachudãmani* also mentioned eight of them. According to it, they are *Gandhak, Hartãl, Fitkiri, Mainsil, Saubirãnjan, Kankustha, Kãsis* and *Geru. Ãyurvedaprakãsh* mentioned *Gandhak, Hingul, Abhrak, Hartãl, Mainsil, Srotãnjan, Tankan, Lãjvard, Chumbak-patthar, Fitkiri, Sankha, Khariã-Mitti, Geru, Kãsis, Khapariã, Kauri, Bãlu, Bole* and *Saurãstri.*
4. ***Sãdhãran-Rasavarga***—The text *Rasendrachudãmani* mentioned eight of them. They are *Kamila, Chapal, Sankhiã, Nausãdar, Kauri, Ambar, Girisindur, Hingul,* and *Murdãsang.*
5. ***Ratnavarga***—Here in this group we find *Hirã, Moti, Pravãl, Pannã, Lahsuniã, Gomed, Mãnik, Nilam* and *Pokhraj.*
6. ***Uparatnavarga***—It includes *Vaikrãnt, Suryakãnt, Chandrakãnt, Perojã, Lãjvard, Sphatic,* etc.

According to the learned scholars Yãdavji Tikramji and Prof. Priyavrata Sharma, the grouping of mineral and salts have not been done in a systematic way so far. Different groupings

are observed in different texts. Both of them suggested that proper uniform classification should be developed.

By keeping the above views in mind an attempt is being made by me to simplify the subject, so that, it can be understood in a simplified manner in the fast developing medical World and the present day need.

The purification (*Sodhana*) of *Rasa-Ausadhis*, i.e., the drugs prepared for metal, germs, mineral salts and poisons are unique features in Āyurveda. The deficiencies of metals, mineral salts, etc., in the body were fulfilled in ancient days by these substances to bring back vitality in the body and to cure various diseases and disorder.

In clinical practice it has been observed that metals and salts play an important role in activating and rejuvenating the tired and sick cells in the various tissues of the body in people having very low vitality and suffering from chronic disease or having poor or unbalanced diet. These minerals and gems reactivate the body tissue cells including these of heart and brain by giving strength to the body, heart and nervous system. This fact that metals and mineral salts are very essential for cellular biology is strongly accepted by the modern science and was known to the ancient physicians in India. These *Bhasams* and *Pistis* were usually taken by the *Mahārājas* and *Nawābs* for maintaining good health.

There is no doubt that if the preparations of metals and minerals are defective or not as per directive, then they may give rise to toxic side effects. These substances should be prescribed by qualified and competent physicians only to avoid their side effects.

An attempt is being made here to reclassify the drugs. They are grouped under seven heads and all the substances mentioned here require purification and detoxication with specialized processes before their use.

(I) ***Dhātu* or *Astadhātu varga*** which includes eight important metals including mercury, as it is the most important metal in this group.

(II) ***Upadhātu varga*** includes all minerals having metals of *Astadhātu* as ingredients in them.

(III) ***Rasavarga*** includes all metals, minerals and salts other than *Dhātu* and *Upadhātu* groups and includes animate products.

(IV) ***Ratna* or *Navaratna varga*** includes all nine precious gems used for therapeutic purpose.

(V) ***Uparatna varga*** includes all the other semiprecious stones.

(VI) ***Visha varga*** includes all the medicinal plants having toxic properties and requiring detoxification.

(VII) ***Sodhan Yogya Dravya varga*** includes medicinal plants requiring detoxification or purification which produces mild side effects but are not poisonous. These are not grouped as *Upavisha*.

Thus this new classification covers most of the substances used in *Rasashāstra* for therapeutic purpose and will make the study easier, and organized without contradicting any of the conceptual, traditional or therapeutic concepts mentioned in the *Rasashāstra* texts. All the substances mentioned in the above seven groups are detoxified before their use for therapeutic purposes.

All the products prepared from the substances mentioned above are if prepared by competent and trained persons and then used judiciously for therapeutic purposes will rarely show any side or toxic effect. On the other hand these products rejuvenate and tone up the whole body. These products from *Rasashāstra* texts have been in therapeutic use for more than thousand years and have been tested clinically. It is not like many of our Allopathic therapeutic

products which come to market after extensive experimental trials on animals and then on the human being show that within a decade 90 per cent of these show disturbance in the whole Bio-rhythm activities in the tissue cells producing one or the other disorders.

Mercury preparations were not only used in India, but were also extensively used in Chinese medications. Records show that Egyptians were also aware of its use. Mercury is an excellent catalytic agent. After its purification and detoxification it is mixed with other purified metals and plant products to make various types of compound medicines based on prescribed formula in the texts. These products retain their medicinal property for a good period and given very good therapeutic benefits without any side-effect. Side-effects of metals and minerals are observed, when they are not properly purified or are prepared by incompetent and unscrupulous people not having proper Āyurvedic medical background. Here English equivalent terminology has not been used in order to keep the original meaning of the terms intact and to avoid misinterpretation.

CLASSIFICATION

I. Dhātu or Astadhātu Varga (Group)

In *Rasashāstra* texts, Mercury has been dealt with separately from other metals because it has fluid nature and possesses all the six types of *Rasa* qualities in it. Mercury is a metal and is a component of *Astadhātu* metals which are considered very auspicious and often used for making images of Gods and Goddesses. This is the reason why Mercury has been discussed here along with other metals. *Astadhātus* are discussed in brief in Table 11.1

Table 11.1 **Dhātu: Eight Types (from Rasāmrita by Yadavji, RTS and RT)**

1. Pārad (Pārā)	*2. Suvarna (Swarna)*	*3. Roupya (Chāndi)*	*4. Tāmra (Tāmā)*
—Mercury or Quick silver	—Gold or Aurum	—Silver or Argentum	—Copper or Cuprum
—	—Dose: 15 to 60 mg	—Dose: 30 to 125 mg	—Dose: 60 to 125 mg
—	—Related to planet Brihaspati (Jupiter)	—Related to planet Chandra (Moon)	—Related to planet Surya (Sun)
—Suddha Parad has all the properties of six types of Rasas (tastes)	—Has Rasas Madhur and Kasāya	—Has Rasas Kasāya and Amla	—Has Rasas Tikta, Kasāya and Katu
—Tridoshar	—Has Madhur Vipāk	—Has Madhur Vipāka	—Has Madhur Vipāk
—Balakārak	—Sitavirya	—Sitavirya	—Usna Virya
—Rasāyan	—Snigdha	—Snigdha	—Sārak
—Sārak	—Laghu	—Sārak	—Laghu

(Contd)

1. Pārad (Pārā)	*2. Suvarna (Swarna)*	*3. Roupya (Chāndi)*	*4. Tāmra (Tāmā)*
—Snigdha	—Rasāyan	—Bayahsthāpana	—Lekhan
—Vranasodhak	—Ruchikar	—Balaprada	—Ropan
—Krimihar (Kitānunāshak)	—Brimhan	—Ruchikar	—Dipan
	—Uttam Vājikar	—Lekhan	—Pāchan
—Sarvarogahara			
	—Medhā and Smriti Vriddhikar	—Vātapittashāmak	—Vishar
	—Rajayakshmā	—Bhram	—Udar
	—Unmād	—Unmād	—Krimi
	—Tridoshhar	—Removes burning sensation caused by pitta disorder	—Sthaulya
	—Neurological disorders		—Kshaya
			—Pānduroga
	—Hysteria		—Kāsh
	—Epilepsy		—Swāsh
	—Polyneuritis		
	—Weak Memory		—Pinas
	—Palpitation		—Sotha
			—Sula
			—Jwara
			—Grahani
			Yakrit-plihā
			Netra-hitakar
			Pittadharakalā

5. Lauha (Lohā)	*6. Vanga (Rāngā)*	*7. Nāga (Sishā)*	*8. Yasad (Jastā)*
—Iron or Ferrum	—Tin or Stannum	—Lead or Plumbum	—Zinc or Zincum Metalicum
—Dose: 125 to 250 mg	—Dose: 125 to 250 mg	—Dose: 80 to 125 mg	—Dose: 125 to 250 mg
—Related to planet Sani (Saturn)	—Related to planet Sukra (Venus)	—Related to planet Budh (Mercury)	—Related to planet Mangal (Mars)
—Balya	—Dipan	—Have Rasa Madhur	—Has Rasa Kasāya and Tikta
—Vājikar	—Pāchan	—Guru, Snigdha, Lekhan Kārak	—Sitavirya
—Does Brimhan	—Ruchikar		
	—Beautifies body (Varnya)		
	—Vranahar	—Ushna Virya	—Param Netra Hitakar
	—Arogyakar	—Sara	—Kapha-Pitta Shāmak
	—Viryavardhak	—Vrishya	—Prameha
	—Kshayahar	—Vājikar	—Pānduroga

(Contd)

5. Lauha (Lohā)	6. Vanga (Rāngā)	7. Nāga (Sishā)	8. Yasad (Jastā)
	—Swapnadosha nāsak	—Dipan	—Swāsh
	—Urinary disorder	—Raktapradar	—Urinary disorder
	—Special medicine for Prameha	—Vātaroga	Sirahsool
		—Arsha	
		—Prameha	
	—Pain in body during Menstruation and in the waist and Abdomen		
	—In physical weakness		
	—Useful in sexual retention power and hardening it		
	—For sexual purpose, it is used with Abhrak, Shilājit, Jāvitri, Jaiphal and Kesar		

II. Upadhātu Varga

Here those minerals and salts are grouped which contain one of the *Dhatu* (Metal) mentioned in *Dhātu* or *Astadhātu varga.* They are as follows:

Table 11.2

Metals	Present in
Mercury	—Hingul —Girsindur
Gold	—
Silver	—
Copper	—Pittal —Kāngsha —Swarnamākshik —Tutthya
Iron	—Kānta Lauha —Mandur —Geru Kāsis (Hirākash) —Abhrak —Vimal —Kāsis
Tin	—Trivanga —Swarnavanga

(Contd)

Metals	Present in
Lead	—Sindur —Sauvirānjan —Murdāsang —Safedā
Zinc	—Kharpar —Puspānjan

The metals and minerals mentioned above under *Upadhātu* group have been discussed in brief in Table 11.3.

Table 11.3

Upadhatu

1. Hingul

(Cinnabār) (Mercuric Sulphide)
It is a combination of Mercury and Sulphur
Useful as

- Tridoshhar
- Dipan
- Vrishya
- Rasāyana

2. Girisindur

(Red Oxide of Mercury)
used externally only

3. Pittal (RT)
(Brass)

Composed of Copper 2 parts and Zinc 1 part
Dose: 60 to 125 mg

- Mild Ushnavirya
- Have Tikta Rasa
- Have Ruksha Guna

Useful for

- Sodhana
- Raktavikār
- Pitta Dosha
- Krimi
- Pānduroga
- Raktapitta
- Sweta Kustha
- Yakrit and Plihā Vikār
- Samgrahani
- Sula

4. Kāngsha
(Bell Metal)

Composed of Copper 8 parts and Tin 2 parts

- Dose: 60 to 125 mg
- Related to planet Rahu
- Have Tikta Rasa
- Ushnavirya
- Laghu

Useful for

- Lekhan
- Krimi
- Kustha
- As Netraprasannakārak

5. Swarnamākshik
(Copper pyrite) (RT)

- Dose: 125 to 250 mg
- Have Madhur Tikta Rasa
- Mild Kasāya
- Have Katuvipāk
- Laghu
- Sitavirya

Useful as/for

- Vājikar
- Balakārak
- Yogavāhi
- Kapha-Pittahara
- Kshayaroga
- Pānduroga
- Krimi
- Kustha
- Grahani
- Arsha
- Mandāgni
- Pradar
- Kāmalā
- Rajayakshmā
- Swarabheda
- Aruchi
- Vastiroga
- Kantharoga
- Vishdosha
- Gandamāla
- Sotha

(Contd)

- Anidrā
- Sarvarogahara with specific Anupanas
- Sometimes used as a substitute for gold

6. Tutthya (Tutiā)
(Copper Sulphate)

- Dose: 15 to 125 mg
- Have Katu and Kasāya Rasa
- Ushnavirya
- Laghu

Useful as/for

- Vamanakārak
- Lekhan
- Bhedan
- Kapha-Pitta Nāshak
- Vishahara
- Arsha
- Kandu
- Switra
- Krimi
- Vrana

7. Kānta Lauha
(Chumbak, Ayaskanta, Kānta Pāshān)
(Loadstore; Magnetic Iron Ore)

- Dose: 125 to 250 mg
- It has relationship astrologically with Ketu
- Sitavirya

Useful as/for

- Brimhan
- Raktasanjanan
- Buddhivardhak
- Vājikar
- Rasāyana
- Kāsh (cough)
- Swāsh
- Kshayaroga
- Panduroga
- Murchā
- Moha
- Raktapittanāshak
- Rajodosha
- Palpitation of Heart

(Contd)

8. Mandur (RT)
(Ferrous oxide; impure Red oxide of Iron)

- Dose: 125 to 500 mg
- Sitavirya

Useful as/for

- Uttām Raktavriddhikar
- Pānduroga
- Sotha
- Plihāvriddhihara
- Mandura is preferred to Lauha in children

9. Geru
(Gairik, Geru-mitti, and Swarnagairik)
(Iron + Oxygen, Deep red)

- Dose: 1 to 3 gm

NB: its Bhasmas are not made but purified with Milk Bhāvanā (Rubbing with it)

- Have Madhurakasāya Rasa
- It is snigdha
- Sitavirya

Useful as/for

- Raktapitta
- Hikkā
- Vaman
- Dāha
- Vishphota
- Arsha
- Agnidagdha
- Visarpa

10. Abhrak
(Mica)

(contains iron, ferrous magnesium Mica)

- Dose: 125 to 500 mg

Useful as/for

- Buddhivardhak
- Uttām Rasāyana
- Kāsh
- Swāsh
- Jirnajwar
- Prameha
- Parināmsul
- Amlapitta
- Grahaniroga
- Sweta Pradar

(Contd)

- Apachi
- Sotha
- Arsha
- Sitavirya
- Bhram

11. Vimal
(Rajat-Mākshik)
(Iron pyrite)

- Dose: 125 to 250 mg
- Have Katu-Tikta Rasa
- Ushnavirya

Useful as/for

- Vājikar
- Rasāyan
- Twakadosha
- Vāta-pittahara

12. Kāsis
(Hirākash)
(Ferrous Sulphate)

- Dose: 125 to 250 mg
- Have Amla and Kasāya Rasa
- Ushnavirya

Useful as/for

- Balakārak
- Blackens hair
- Netrahitakar
- Vishahara
- Switra
- Pandu-roga
- Plihāvriddhihara
- Raktapravartak
- Ārtavjanan

13. Trivang (RT)

It consists of three metals mixed equally

- Yasad (Zinc)
- Sishā or Nāga (Lead)
- Vanga (Tin)

Useful as/for

- Sexual retention power and hardening it
- For sexual purpose it is used with Abhrak, Shilājit, Jāvitri, Jāiphal and Kesar

(Contd)

14. Swarnavang (RTS)

(Composed of Vanga, Pārad and Gandhak)

It is a Kupipakwa preparation

- Golden in colour
- Dose: 125 to 250 mg

Useful as/for

- Prameha
- Chronic cough
- Swāsh
- In urinary disorders
- General weakness
- Strength, vigour and vitālity
- Gives benefit in 4-5 days in Sukrameha

15. Sindur

(Red Lead oxide)

Not taken orally used externally only

Useful as/for

- Ushnavirya
- Vranasodhak
- Ropak
- Bhagna-Sandhān
- Visarpa
- Kandu
- Vishanāshak

16. Souvirānjan

(Surma, Kalāsurmā)

(Lead Sulphide)

- Dose: 60 to 125 mg
- It is Guru and Snigdha

Useful as/for

- Rasāyana
- Netrahitakar
- As Suvarna mārak while making its Bhasma

17. Safedā

(White lead carbonate)

Used externally only

Used for

- Vranaropan
- Dāhaprasaman

18. Murdāsang

(Lead Oxide)

Used externally only

Useful as/for

(Contd)

- Krimighna
- Lekhan
- Krimi Sodhan
- Vrana ropan
- Lingadosha
- Upadamsa
- Kaphanāshak

19. Kharpar (Rasaka)

(Zinc Carbonate, Calamine)

Used externally only

- Useful in itching, eczema, etc., skin disorders

20. Puspānjan

(Zinc Oxide)

Used externally only

- White in colour
- Snigdha
- Sitavirya
- Vrana ropana

Note: All the references above are from the texts.

- Rasāmrita
- Rasārnava
- Rasendrachudāmani
- Rasa Tarangini (RT)
- Āyurved-Prakāsh
- Rasatantrasār (RTS)
- Bhaisajya Ratnāvali (BR)

III. Rasavarga

All metals, minerals their compounds, salts, non-animate and animate substances other than the eight *Dhātus* and their compounds (*Upadhātus*) are used for Medicinal purpose and are grouped under this head of *Rasavarga*. They are grouped as follows:

Table 11.4

Main Substance	***Present in***
Arsenic	—Hartāl
	—Manahshilā
	—Sankhiā
Sulphur	—Gandhak
Calcium	—Muktāsukti
	—Sankha
	—Kauri
	—Sambuk

(Contd)

Main Substance	Present in
	—Samudra Lavan
	—Godanti
	—Khari
	—Chunā
	—Mrigashringa
	—Kukkutāndatwak
	—Berpatthar
	NB: Prabal and Mukta also contains calcium but placed under Ratna group
Antimony	—Nilānjan
Bismuth	—Chapala-Sattwa
Magnesium	—Dugdhapāshān
	—Kesoyāsmā (Asbestos)
Aluminium	—Sphatika
	—Kankshi-Sattva
Others	—Shilājit
(Miscellaneous)	—Jaharmohra
	—Tankan
	—Sikatā
	—Khunkarābā
Sodium and	—Yavakshār
Potassium	—Sarji-kshār
	—Saindhav Lavan
	—Samudra Lavan
	—Sāmbhar Lavan
	—Souvārchal Lavan (Kālā Namak)
Ammonium	—Vid-Lavan
	(Nausadar or Narsar)

Rasavarya Dravyas (substances) have been discussed in brief in Table 11.5.

Table 11.5

Rasavarga

1. Hartāl (Tāl)

— (yellow Arsenic, Orpiment, Arsenic Thiosulphate)

— $As_2 S_3$

— Dose: 60 to 125 mg

— Useful in all types of vāta-kapha roga

— Ushnavirya

(Contd)

- While using Arsenic avoid taking Amla and Katu Rasa dravyas
- Preparation Tālasindur

2. Manahsilā (Mainsil)

- (Arsenic + Sulphur)
- Arsenic Bisulphate
- $As_2 S_2$
- Arsenic Rubrum (Realgar)
- Dose: 60-125 mg
- Have Katu Tikta Rasa
- Ushnavirya

Useful as/for

- Ushnavirya
- Rasāyana
- Cough
- Jwar (fever)
- Swāsh
- Kandu

3. Safed Sankhiā

- (Malla, Sankhavish, Seko-vish, Gairik Pāshan)
- (While Arsenic Arsenic oxide $As_2 O_3$)
- Dose: 1 to 2 mg
  (1/100 to 1/50 of a Ratti)
  NB: 125 mg (1 Ratti) dose is Mārak (kills)
- Preparation:
- Mallavati Dose 125 mg (composed of Sankhia (1 part) + Ras Sindur (1 part) + Giloya Sattva

4. Gandhak
(Sulphur)

- Dose: 0.5 to 1 gm
- Have Katu Rasa
- Have Madhur vipāka
- Ushnavirya

Useful as/for

- Sārak
- Pāchak
- Dipan
- Vrishya
- Yogavāhi
- Kapha-vātahara
- Kustha (Twachā) Roga

Preparation

- Gandhak Rasayana
- Dose 0.5 to 1 gm

(Contd)

Useful in

- All types of skin diseases
- Boils and Fistula
- Gastro-Intestinal troubles

5. Muktāsukti (RTS)
(shell of Mother of Pearl)

- Dose: 125 to 500 mg
- useful as pearl and is prescribed in its absence

Useful in

- Cold and Cough
- Asthma
- Respiratory infection
- Anaemia
- General debility

6. Sankha
(Conch)

- Dose: 250 to 500 mg

Useful in/as

- Kaphavātashāmak
- Amlatānāshak
- Pāchan
- Lekhan
- Ajirna
- Udarsul
- Amlapitta
- Gulma
- Kāsh, Swāsh

Preparations

- Sankhavati
- Kaphaketu Ras

7. Kauri
(Kapardikā)
(Cyproea moneta)

(Phosphate, Carbonate, Fluoride of calcium and Magnesium Phosphate, Manganese and Sodium fluoride)

- Dose: 250 to 500 mg

Useful as/in

- Vātakaphashāmak
- Lekhan
- Sothahara
- Kaphagna
- Kāsh
- Agnimāndya

(Contd)

- Parināmsul
- Grahani

8. Sambuk
(Sāmuk)
(Oyesters)

composed of

- Calcium Carbonate 85-95%
- Magnesium Sulphate and phosphate
- Silicia
- Dose: 250 to 500 mg

Useful as/in

- Ushna
- Dipan
- Pāchan
- Anuloman
- Parināmsul
- Gulma
- Bālasosha

9. Samudra Lavan

(Bones of cattle fish found in sea)

- Composed of Calcium Carbonate 80-85% + Calcium Phosphate and Sulphate + Silicia
- Dose: 250 to 500 mg

Useful in/as

- Kapha Pitta-nāshak
- Karnashrāv
- Sul
- Gulma
- Yakrit-plihāroga
- Raktapitta
- Dantaroga
- Raktashrāv
- (to stop bleeding)

10. Godanti (RT)
(White Calcium Sulphate)

- Dose: 125 to 500 mg
- It is purified by washing well with hot water
- It is commonly excellent remedy for fever

Useful in

- Sirahsul
- Jwar
- Kshaya
- Kāsh

(Contd)

- Pānduroga
- Urahkshata
- Bālasosha
- Sweta pradar

11. Khari

(Khatikā)

(chalk, khariāmitti)

- Dose: 1 to 3 gm
- Has Madhur and Tikta Rasa
- Sitavirya
- Grāhi
- Pittahara
- Dāha
- Vrana
- Kaphahara
- Raktashrāv
- Netrarogahara

Preparation

- Khatikādichurna
  Dose: 200 to 350 mg
  useful in Atisāra and Vamana

12. Chunā

(Churna)

(Lime)

- Used externally on painful areas mixed with Haldi
- Widely consumed with pan (Betal leaf)

Preparation

- Sudhā-parpati
- (Calcium 1 part + Sulphur 2 parts)
- Useful in Kantha mālā and Pramehapidikā

13. Mrigashringa

(Dear Horn) (RT)

- Dose: 125 to 250 mg

Useful as/in

- Excellent expectorant, liquefies and dries up mucous
- Pneumonia
- Hridayasul
- Kshayaj Kāsh
- Gives strength to children bones

(Contd)

14. Kukkutāndatwak
(Egg shell)

- Dose: 500 mg-2 gm
- Used in cases having calcium deficiency and in leucorrhoea

15. Berpatthar
(Hazrul-Yahud)
(Silicate of Lime)

- Dose: 500 mg to 1 gm
- It is imported

Useful as/in

- Stone breaker in Kidney, i.e., Renal stone breaker
- Asmarisulhar
- Mutra-rodha
- Mutral
- NB—Its Pisti is made only, not Bhasma

16. Nilānjan
(Baranāg)
(Antimony)

- Not in much use

17. Chapala-Sattva
(Bismuth or Selenium)

- Not in much use clinically
- It is prepared from Chapala

18. Dugdhapāshān
(Sangejaharat)
(Soft stone, Talc, Magnesium Silicate)

- Dose: 1 to 2 gm

Useful as/in

- Sitavirya
- Grāhi
- Vranaropan
- Raktastambhak
- Dantarogahara
- Atisār and Pravāhikā
  (here given mixed with curd)

19. Kesoyāsmā
(Asbestos)
(Range-Rasam)
(Silicate of Magnesium)

- Dose: 1 to 2 gm (as Bhasma)

Useful in

- Dantapuya

(Contd)

- Prameha
- Pradar
- Epilepsy

20. Sphatika (BR)

(Fitkiri, Shourāstri, Alum)

- Contain Aluminium
- Dose: 250 to 400 mg

Useful in

- Whooping cough
- Gudābhramsa
- Yonibhramsa
- Raktapitta
- Leucorrhoea
- Jwar, Dāha
- It is Madhur in taste and is Sitavirya

21. Kānkshi-Sattva

- It contains Aluminium and is prepared from Fitkiri
- Clinically it is rarely used

22. Shilājit

(Black Bitumen, Mineral Pitch)

- Dose: 500 mg to 1 gm
- Contains many types of minerals
- Have Tikta and Kasāya Rasa
- Ushnavirya

Useful as/in

- Sārak
- Soshan
- Yogavāhi
- Medhya
- Vātaroga
- Prameha
- Kustha
- Sotha
- Pandu, etc.
- It promotes strength, vigour and stmina in the body
- A general health tonic
- Very useful in general debility and weakness

23. Nāgpāshān

(Jaharmohrā)

(serpentine, orphite)

(Silica + Magnesium)

- Dose: 250 mg to 1 gm

(Contd)

- It is a yellow greenish or white stone
- It is ushna and ruksha

Useful as/in

- Vishagna and vishahara
- Hridspandan
- Soumyajanan
- Balaprada to Hridaya, Mastiska and Yakrit
- Ojaswardhak

24. Sikatā

(Bālukā, Sand)

(Silica)

- It is present in fine powder form in sand
- Dose: 125 to 400 mg
- It has Madhura rasa
- Sitavirya

Useful as/in

- Lekhana
- Urahkshata
- Stambhana
- Externally used for fomentation as Bālukā sweda

25. Khunkarābha

(Raktaniryāsh, Dragon's blood)

- It contains Benzoic and cinemic Acid)
- Dose: 1 to 1.5 gms
- It is a bluish extract from a plant (imported)
- It is an excellent haemostatic
- It is Raktapitta and Kapha-Pitta Shāmak
- It is also known as Dammul akhven

26. Tankan

(Sohāgā, Borax)

- Dose: 250 to 500 mg
- It has Katurasa
- Ushnavirya
- Tikshna guna

Useful as/in

- Shārak
- Kaphanissārak
- Jathārāgnivardhak
- Ārtavjanan
- Balya
- Pittakārak
- Vātaroga

(Contd)

— Kāsh
— Swāsh
— Vish
— Ādhmān
— Rajahnissārak
— Garbhāsaya Samkochak
— Amlatānāshak
— Pachan-nivārak

27. Yavakshār

(Jawkshār)

— It contains salts of Potassium
- Potassium chloride 50%
- Potassium sulphate 20%
- Potassium bicarbonate 12%
- Potassium carbonate 6%

— Dose: 250 to 500 mg
— It has Katu rasa
— Ushnavirya

Useful as/in

— Kapha-Vātahara
— Hridroga
— Pāndu
— Grahani
— Plihā-Yakrit vriddhi
— Anāha
— Galagraha
— Kaphaj Kāsh
— Arsha
— Udar
— Āmasula
— Asmari
— Mutrakrichra
— Vivandh
— Gulma
— Vishadosha

28. Sarjiksāra

(Sājimāti, Sajjikhāra)

(Soda Bicarb)

— It is prepared from a plant Lānā, available plenty in Punjab and Sindh
— Dose: 500 mg to 1 gm
— It is Tikshna, Laghu

(Contd)

- Ushnavirya

Used as/in

- Kledak
- Pāchak
- Granthi
- Vranasotha
- Dipan
- Chedan
- Kapha
- Vivand
- Dāha
- Arsha
- Gulma
- Plihā-vriddhi

29. Saindhav Lavan
(Rock-Salt)

30. Sambhār or Romak Lavan
(prepared from a lake in Rajasthan)

31. Sāmudra Lavan
(sea salt, sodium chloride)

32. Vid-Lavan
(Nausādar or Narsār)
(Ammonium Chloride)
33. Souvārchal
(Kālā-namak or Bitnun)

- It is composed of Sarjikshar + Saindhav Lavan
- It also contains Sulphur and Iron

IV. Ratna (Gems) or Navaratna Varga (group)

These are nine main gems popularly known as *Navaratna* (nine types of gems). This include two animal products which are Pearl (*Muktā*) and Coral (*Pravāl*).

In general the properties of all *Ratnas* for therapeutic purpose (in *Bhasma* or *Pisti* form) are:

- To increase body vitality (*Ojas-sakti*)
- As *Hridya* (cardio tonic)
- As *Mastiska Saktipradak* (Brain and nerve tissue tonic)
- Serve as excellent tonic for all body tissues

All these *Ratnas* are described in brief in Table 11.6.

Table 11.6. Ratna or Navaratna Varga

1. Vajra

(Hirā, Hirak, Diamond)

- It is a pure carbon
- Dose: 3 to 8 mg (1/32 to 1/16 Ratti)

Useful as/in

- Tridosaghna
- Medhya
- Vrishya
- Balya
- Rasāyan
- Yogavāhi
- Hridroga (Param Hridya)
- Rajyaksmā
- Pāndu
- Sosha
- Klaibya
- Excellent Rasāyana
- Napungsatā
- (Impotency)
- Any type of chronic disease (acts as Amrit Samān)
- Meda, Meha
- Yogavāhi

2. Mānikya (Ruby)

- Dose: 30 to 60 mg
- It has Madhur Rasa and is Snigdha Guna

Useful as/in

- Vājikar (aphrodisiac)
- Hridya
- Dipan
- Medhya
- Balakārak
- Rasāyana
- Vātapittahara
- Mastiskaroga
- Balaprada
- Bhram
- Unmāda

3. Neelam

(Nilā, Indranil, Sapphire)

- Dose: 30 to 60 mg

(Contd)

- It has Ruksha guna
- Ushna in Virya

Useful as/in

- Manahprasannakārak
- Mastiskasaktiprada
- Hridya
- Hridspandan (palpitation)

4. Pokhraj

(Pusparāj, Topaz)

- Dose: 30 to 125 mg

Useful as/in

- Dipan
- Laghu
- Pāchan
- Vish
- Vaman
- Kapha
- Vāta
- Dāha
- Kustha
- Agnimāndya

5. Pānnā

(Marakata, Tārkshya, Emerald)

- Dose: 30 to 125 mg

Useful as/in

- Ojasvriddhikar
- Jwar
- Vaman
- Vish
- Swāsh
- Sannipāt
- Agnimāndya
- Sothanāshak
- Panduroga

6. Vaidurya

(Cat's eye, Lahasuniā)

- Dose: 15 to 125 mg

Useful as/in

- Dipan
- Pāchan
- Āyushya
- Balya

(Contd)

— Raktapitta

7. Gomed

(Cinnamon stone)

— Dose: 30 to 125 mg

Useful as/in

— Dipan
— Pāchan
— Ruchikar
— Kaphdosha
— Pittadosha
— Kshaya
— Twachāhitakāri
— Buddivriddhi
— Pānduroga

8. Moti

(Muktā, Pearl)

— It contains finest form of calcium
— Dose: 125 to 500 mg

Useful as/in

— Tridosaghna
— Nādivalya
— Hridya
— Vrishya
— Dāhaprasaman
— Kaphanissārak
— Chaksusya
— Visagna
— Smritivardhak
— Sirahsul
— Raktapitta
— Lekhan

9. Pravāl

(Mungā, Coral)

— It contains
  - Cal Carbonate 33%
  - Mag Carbonate 3.5%
  - Iron Carbonate 4.3%
— Dose: 125 to 500 mg

Useful as/in

— Jwaraghna
— Tridoshar

(Contd)

- Lekhan
- Swāsh
- Kaphavātaghnā
- Medhya
- Nādivalya
- Hridya
- Amlatānāshak
- Dipan
- Pāchan
- Sonita
- Stambhan
- Kaphagna
- Vrishya
- Aruchi
- Mutral

V. Uparatna Varga

All gems other than *Navaratna* (the nine precious gems) are included in this group which are used for therapeutic purposes in Ayurveda. Here nine of them have been described.

Table 11.7. Uparatna Varga

1. Vaikrānt

(Tourmaline)

- Bluish or Reddish in colour
- Dose: 4 to 10 mg (1/24 to 1/11 Ratti)

Useful as/in

- Tridosaghna
- Possess six types of Rasas in it
- makes body firm
- Pānduroga
- Jwar
- Swash
- Kāsh
- Rajyakshmā
- Prameha
- NB: This Bhasma is used as a substitute of Hirak Bhasma

2. Suryakānta

(Sunstone)

- Dose: 30 to 125 mg
- Ushnavirya

(Contd)

Useful as

- Medhya
- Rasâyana
- Vãtakaphanãshak

3. *Chandrakãnta*

(Chandrakantamani, Moonstone)

- Dose: 30 to 125 mg
- It has Snigdha guna

Useful as/in

- Sitavirya
- Hridya
- Pittavikãr
- Jwar
- Raktapitta

4. *Firojã*

(Peroja, Turguiase)

- Dose: 30 to 125 mg
- It has Kasãya and Madhur Rasa
- Sitavirya

Useful as/in

- Dipan
- Sãrak
- Hridya
- Vish
- Netraroga
- Mastisksya
- Asmaribhedak
- Hridspandan

5. *Sphatik*

(Kãṇchmani, Rock crystal, Quartz group)

- Dose: 30 to 125 mg
- It has Madhur Rasa

Useful as/in

- Balakshaya
- Atisital (Shavirya)
- Raktapitta
- Jwar
- Dãha

6. *Lãjvard*

(Rãjãvarta, Lapis Lazule)

- Dose: 30 to 125 mg

Useful as/in

- Dipan
- Pāchan
- Visaghna
- Rasāyana
- Arsha
- Panduroga
- Kaphanāshak
- Vātashāmak

7. Sange Yahud

(Jade)

- Dose: as Bhasam 125 to 250 mg
- As Pisti 250 to 500 mg
- It has Ruksha guna
- Sitavirya

Useful as/in

- Hridaya (Heart)
- Asmari
- Hridspandan
- Amāshaya
- Saktipradak
- Pravāhikā
- Mutradāha

8. Akik

(Agate)

- Dose: 250 to 500 mg
- It has Ruksha guna
- Sitavirya

Useful as/in

- Raktastambhaka
- Mastiskaroga
- gives firmness to teeth

9. Kaharuba

(Trinakāntamani)

(Amber)

- Dose: 1 to 2 gms
- It has Ruksha guna
- It is Anusnasital (or Sitavirya)

Useful as/in

- Manaprasannakārak
- Amāsayabalakārak
- Samgrahani

(Contd)

— Raktastambhak
— Hridya
— Ratātisār
— Raktārsha
— Raktapradar

VI. Visha Varga

These include medicinal plants having toxic properties and require detoxification as in metals, minerals and gems, before they are used for medicinal purpose. They are grouped in Table 11.8.

Table 11.8

S.No.	*Drugs*	*Parts used*	*Botanical Names*	*Dosage after Detoxification*
1.	Vatsanābh	Tuber	Aconitum ferox	15 mg
2.	Atis	Tuber	Aconitum chasmanthum	500 mg –4 gm
3.	Bhallatak	Seed	Semicarpus anacardium	60-50 mg
4.	Kupilu	Seed	Strychnos nux vomica	60-250 mg
5.	Lāngli (Kalihari)	Root	Gloriosa superba	125-250 mg
6.	Arka	Flower and Milk (Kshir)	Calotropa procera	Flower 1-2 gm Milk 250 600 mg
7.	Dhatura	Seed	Dhatura metal	60-25 mg
8.	Jaipāl (Jamālgotā)	Seed	Croton tiglinum	30-60 mg
9.	Snuhi (Thuar)	Milk (Kshir)	Eupharbia nerifolia	60-125 mg
10.	Karvir (Pilākaner)	Root	Nerium odorum	15-125 mg
11.	Gunjā (Ratti)	Seed and Root	Abrus precatarius	60-180 mg
12.	Afim	Resinous extract	Papaver somniferum	30-125 mg
13.	Bhāng	Leaves	Cannabis sativa	125-250 mg
14.	Erandabeej	Seed	Ricinus communis	2 to 6 seeds

VII. Sodhan-yogya Dravya Varga

These are medicinal plants which require minor purification or detoxification to remove their minor unwanted side effects but are not poisonous. They are enumerated in Table 11.9.

Table 11.9

S.No.	Drugs	Parts used	Botanical Names	Dosage after Detoxification
1.	Guggulu	Resinous extract	Commiphora mukul	0.5-1.5 gm
2.	Hing	Resinous extract	Ferula narthex	125-500 mg
3.	Lasan	Bulb	Allium sativum	1.5 gm

12

Pulse in Ãyurveda: Nãdivigyãna

On close study of the historical development of Pulse Science in Ãyurveda, we find that written by *Gautama, Kanãda* and *Rãvana* on the subject of Pulse are most ancient ones, but according to many scholars they are of later origin. The earliest references we get are in the text *Sãrangadhara Samhitã* in the $8\frac{1}{2}$ *slokas* (verses) written in 14th century A.D. and later in the text *Bhãvaprakasha* written in the 16th century A.D. in 12 *slokas*.

A detailed study in this aspect was done by Dr Ekendra Nãth Ghosh in his works published in the 'Journal of Ãyurveda' from Calcutta since July, 1924.

We can assume that the development of Pulse Science took place in six stages, which are as follows:

1. Origin in the ancient text.
2. Development of Pulse Science in the hands of later physicians.
3. Pulse concept in association with *Nãdi-Chakra* System of *Yoga* and *Tantra*.
4. Appearance of independent treatment on pulse.
5. Incorporation of pulse holding prominent place in works on clinical methods of examination.
6. Present-day status of pulse concept in Ãyurveda.

1. ORIGIN IN THE ANCIENT TEXTS

We know that *Charaka Samhitã* is the oldest available Ãyurvedic text. Here we find a chapter on prognosis of the diseases where pulsation of the arteries are utilized in recognizing death or a dying condition. It mentions the parts of the body which continually pulsate, and when the pulsatile vessels of the neck (*Manyã*) are felt to have stopped pulsating, the patient is dead (CS. In. 3). We do not find examination of arteries in any other parts of the body including wrist and radial artery.

In another contemporary text, *Susruta-Samhitã*, we find despite a detailed description of the arteries (SS. Su. 9) and several chapters of prognosis, nothing relating to pulse examination is available.

In *Bhela-Samhitā* also a large section deals with the prognosis of diseases but without any mention of Pulse Examination (in the chapter on *Indriasthāna.*).

In *Hārita-Samhitā* we find, "If the pulse stops beating, the patient is going to die."

In 600 A.D. Vāgbhata said in connection with signs of imminent death that, the person whose respiration is very shallow and whose pulse beats very irregularly, is going to die (*Astānga-Hridaya,* Sā, 5). We have a similar passage in *Astānga Samgraha* also in As, Sā, 10.

So, from the above findings we can infer that the Āyurvedic physicians were already drawn to the value of the pulsatile vessels in the interpretation of death or of a dying condition. Although this period cannot be regarded as that of the development of the Pulse Science, it may reasonably be taken as the first step in the origin of the subject, i.e., Pulse Science in India.

2. DEVELOPMENT OF THE PULSE SCIENCE IN THE HAND OF LATER PHYSICIANS

During this stage in the history of the Āyurvedic System of medicine, due to the accumulation of the observed facts in various directions, there was a tendency towards a division of the system into two groups, namely Pathology and Therapeutics including pharmacy.

During this period there was no interest in the development of Pulse Science and none of the works of the period help us until 14th Century A.D.

In the same or later period, there was again a tendency towards the reunion of the various branches in a single treatise, undoubtedly with a view to prepare a handy reference book for busy practitioners. The impulse seems to have been initiated by Bangasena (11th century) in his text *Chikitsa-Samgraha.* This treatise was followed by *Sārangadhara Samgraha.* By Sārangadhara and *Bhāvaprakasha* by Bhāvamisra and similar such other compilation. Even in *Mādhava-Nidāna* written by Brinda-Mādhava around 8th century A.D. (according to prof. P.V. Sharmā), a text on diagnostic methodology we find no mention of Pulse Examination.

So far as our knowledge allows, we find the first few passages on *Nādi-Parikshā* in the compilation of *Sārangadhara* which dates back to 14th century A.D. Nearly all the principles of the subject are clearly laid down in these few verses: the mode of Pulse Examination including the selection of the site indicated, the Pulse characteristics are noted for the derangement of the *Vāyu, Pitta* and *Kapha,* singly or in combination, the Pulse characters are also given for certain bodily conditions, and are noted which indicate unfavourable prognosis.

In *Bhāvaprakasha,* the section of *Nādi-Parikshā* consists of 12 verses. The contents are practically the same as *Sārangadhara Samhitā.* The author of this, flourished in 1585 A.D. Even in this period we do not find any mention of the use of three fingers in Pulse Examination and the importance of each finger in the diagnostic method used in the present day.

So we can take this period up to 16th cent. A.D. as the second stage in the history of the Pulse Science development in India.

As the ancient works of Gautama, Kanāda to whom tradition ascribes the science of Pulse are not available and it is impossible to find their original sources. Yet it may be safely asserted that the science of Pulse in India is at least a thousand years old. In *Āyurveda-Parichaya,* Mahāmahopādhyāya Gananāth Sen said, this Kanāda cannot be the same person who wrote *Vaisesic-sutra,* because there is no mention of Pulse anywhere in his works. Another book on Pulse, which many think as an ancient text on this subject was written by Rāvana of the *Rāmāyana*

epic, but it is not likely so. Rãvana wrote five books, namely *Arkprãkash*, *Bãla-chikitsã*, *Dasapatalãtmak udishtantra*, *Kumãratantra* and *Nãdi-Parikshã*. Mention of *Phiranga-roga* (syphilis) is there in the text *Arkprakãsh* (Haldãr, 1945). Syphilis was an unknown disease in India and occurred after the Portuguese entered India in 1535 A.D. so we can infer from above that this book on Pulse by Rãvana is of later origin and even later than *Bhãvaprakãsha*, and we may consider this period as after 16th century A.D.

3. PULSE CONCEPT IN ASSOCIATION WITH NÃDI-CHAKRA SYSTEM OF YOGA AND TANTRA

In some of the compilations of a later period, we find the *Nãdi-Chakra* concept was incorporated with *Yoga* and *Tantra Shãstras* in the true system of the Pulse Examination. We find two manuscripts mentioned by Ekendra Nath Ghosh (1924), *Gadasanjibani* and *Vaidrashãstram*, compilation works of later dates, in which the *Nãdi-Chakra* system holds a prominent place, especially in the latter treatise. The influence of the *Nadi-Chakra* system upon the present science had been so profound that even the later authors on Sphygmology (Science of Pulse) had to add a chapter on *Nãdi-Chakra* or at least a few passages in their works, although it had no practical bearing on the present subject. The reason for this jumbling-up of two altogether different subjects is rather difficult to find out in the present state of our knowledge. Ekendra Nath Ghosh concluded by exploring many manuscripts and libraries as we find in his article in the Journal of Ãyurveda are as follows: We may reasonably conclude,

(a) that the *Nãdiparikshã* and *Nãdichakra* systems had their origin independent of each of other.
(b) that the first system developed its main principles in connection with the Ãyurvedic medicine and the second one developed in the hand of the people who evolved the practice of *Yoga*.
(c) that many of the later additions to the principles of *Nãdi-Parikshã* already laid down by the sages, who might have casually studied the subject or might have been equally versed in the healing arts, as we have reasons to believe that many Ãyurvedic physicians and sages practising *Yoga*.
(d) and that the later physicians united the subject matter of the two systems (evidently tempted by the matter included in the *Nãdichãkra* system but really of practical importance to the other one) without proper discriminations and in a confused way. This union, thus effected is practically used in the present days with modifications.

4. APPEARANCE OF INDEPENDENT TREATISES ON PULSE

The steady progress of the science with enormous increase in the subject matter resulted in the development of independent treatise on Pulse Science, as its practical importance came to be recognized.

A great deal of progress was made in connection with the prognosis, especially in indicating death and the time of death from Pulse Examination.

As time went on, new treatises appeared one after another in rapid succession, embodying the observations of the practitioners and at the same time gradually leaving out the less important portions dealing with *Nãdi-Chakra*. Later gradually, only a few lines from *Nãdi-Chakras* used to be mentioned which once held a high esteem and prominent place in Pulse Science.

Fortunately for this practice, there has not been much loss of material in proportion to the amount of destruction of the literature.

5. INCORPORATION OF PULSE HOLDING PROMINENT PLACE IN WORKS ON CLINICAL METHODS OF EXAMINATION

As we proceed further, we find a further change in the subject matter of the treatises. With the elimination of the matters on the *Nādi-Chakra* and the further development of Pulse Examination, the importance and necessity of the clinical examination of the sense organs (eye, ear, nose, tongue) and of the body fluids as urine, semen, etc., came to be recognized by the physicians.

The treatises now, not only dealt with the Pulse Examination but also contained passages dealing with the examination of the above sense organs and bodily fluids. Thus they are to be regarded as works on clinical methods rather than simple treatises on Sphygmology, although they have all been going on in the latter name, evidently due to the fact that the Pulse Examination has by far the most prominent place in them and forms the main portion of the subject matter.

6. PRESENT-DAY STATUS OF PULSE SCIENCE IN AYURVEDA

The Pulse Science is now a highly neglected subject. No further research is being done and no fresh addition is being made. There are a few printed treatises available, mostly compiled haphazardly from various authors. Unfortunately the printed treatises are more than useless. It is highly desirable that this science should be revived.

In Āyurveda, the examination of Pulse is a Science and Art, which is learnt through prolonged practice under the guidance of a competent *Guru* and on the other hand one should have a very good in-depth knowledge of Āyurveda.

PULSE

Some information on Pulse Examination is given here in brief.

In Āyurveda pulse is examined by using three fingers on the wrist. Fingers are lightly placed on the radial artery. Each finger occupies about half an inch of the radial artery. It will be observed except in a perfectly healthy person, that the sensation is different at each place, and if pressure is exerted, suddenly a point is reached where the sensation has a different quality. The superficial position is compared with the arterial wall elasticity and the deep position to the sensation of the flow of blood within the artery.

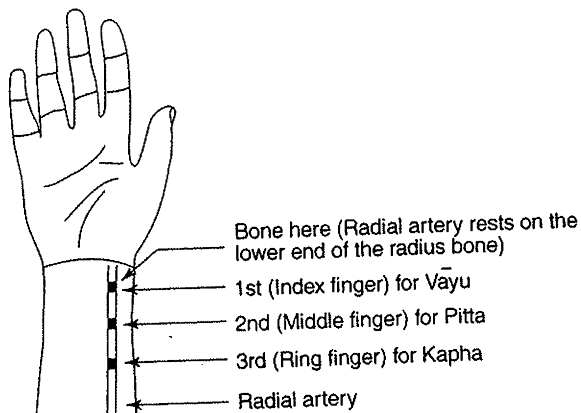


Fig. 12.1

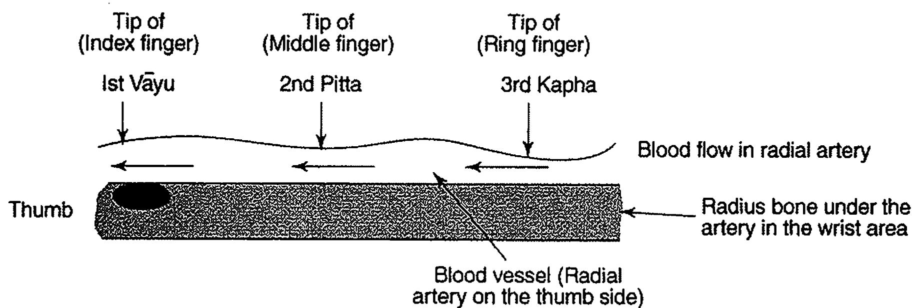


Fig. 12.2

VĀTA	Leech (Jalauka)	1	2	3	4 1/2	4 1/2
	Snake (Sarpa)	1	2 3	4	5 6	6
PITTA	Frog (Manduka)	1		2	1/2	2 1/2
	Dove (Kabutar)	1	2	3	4	4
KAPHA	Crow (Kauā)	1		2	1/2	2 1/2
	Swan (Hamsa)	1			2	2

Fig. 12.3

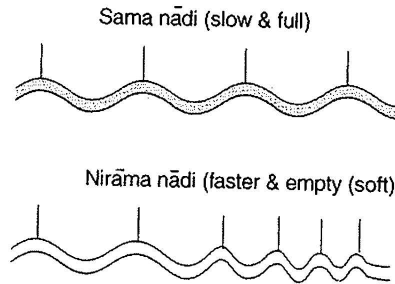


Fig. 12.4

Table 12.1 Pulse Examination—A Comparative Study

Dosha	Movement of pulse as compared with movement of animals	Sthāna (Site of finger from the root and thumb)	1. Gati (Rate)	2. Yati (Rhythm)	3. Ākriti (Fullness)	4. Sanghati (Volume or hardness of artery)
Vāta	Sarpa (Snake) is taken for normal gati, fast moving, zig-zāg movement, irregular and Leech gati is taken as abnormal	Ist Index finger	+++ 75+20 beats per minute	Irregularly Irregular – –	+	+ or ±
Pitta	Manduk (Frog) Jumps, regularly irregular and Kauā (Crow) gati is normal	2nd Middle finger	++ (75+10) beats per minute	Regularly irregular ± (Generally it is regular), e.g., Pulse deficit,etc.	+ +	+ + +
Kapha	Gaja (Elephant) gati is slow in movement and similar in Rajhamsa (Swan) and Peacock	3rd Ring finger	+ (75–10) or 65 beats per minute is normal	Regular (always) +	+ + +	+ + (less than pitta)

IDENTIFICATION OF PULSE

1. ***Vāta*** The placement of the index finger denotes the pulse of *Vāta*. When this pulse predominates, the index finger feels the throbbing more strongly. The pulse feels like the movement of snakes, quick and slippery.
   The pulse of *Vāta* type is fast, feeble, narrow, cool, irregular and rate is 80-100 beats/min.
2. ***Pitta*** The placement of the middle finger denotes the pulse of *Pitta*. When this pulse predominates, the middle finger feels it strongly. It is active and jumpy like the movement of a frog.
   The pulse of *Pitta* type is jumping, excited, prominent, hot, moderate and regular and rate is 70-80 beats/min.
3. ***Kapha*** The placement of the ring finger denotes the pulse of *Kapha*. When this pulse predominates, the ring finger feels it strongly. The pulse is slow and resembles the floating of a swan.
   The pulse of *Kapha* type is slow, strong, steady, soft, broad, regular and warm and rate is 60-70 beats/min.

13

Concept of Nãdi in Ancient Texts

INTRODUCTION

The term *Nãdi* is one of the most controversial terms in the field of *Yoga, Tantra* and other Indian Philosophies. The concept of *Nãdi* is to be understood by referring to various texts on *Yoga, Ãyurveda* and related literature. This study is based on the concept as found in classical texts as well as in modern physiology. Interwoven with this is the concept of *Prãna* and its relation to *Tridosha* along with relevance to *Vayu* are all dealt with, in detail in later works.

In the classical texts of Ãyurveda like *Charaka* and *Susruta, Nãdi* is described as artery, vein, tendon, fascia, etc. Many modern textbooks on *Yoga* described *Nãdi* as Nerve, but *Nãdi* means 'Stream' in *Rig-Veda* (MacDonnel and Keith). The term *Nãdi* is said to be derived from the root word *'Nãd'*, which means motion. In words, *'Nãdi* is any channel through which energy or material flows'. Water flows through a channel in a stream, the channel is known as *Nãdi* and the flow of water in it is known as *Srotas*. Let us take another example, Laser-ray passes through space, thousands of miles in a straight line and the channel through which it pass is known as *Nãdi*. Here the channel has no wall around. So, *Nadi* is a channel with or without walls around.

According to Sir John Woodroffe, some of the gross *Nadis*, such as the physical nerves, veins and arteries, are known to medical science. But they are not all this gross or physical and visible in character. They exist like all else, in subtle forms, and are known as *Yoga-Nãdis*. The latter may be described as subtle channels (*Vivara*) of *Prãnic* or vital energy (which is *Vãyu* or *Vãta*).

The *Nãdis* are, as stated, the conduits of (*Prãna Sakti*). Through them its solar and lunar currents flow. They are therefore vital to the science of life-element, and not to the medical *Shastra* (*Vaidya-Shastra*) (SP-p 127).

Further Woodroffe said, it must, however, be noted that the *Yoga-Nãdis* are not the ordinary material nerves, but subtler lines of direction along which the vital forces go (SP-p 121). In the leaf of *Asvattha* tree (*Ficus religiosa*), there are minute fibres, so is the body permeated by the *Nãdi*. In *Sat-Chakra-Nirupana* (v.2) *Nãdi* is said to be derived from the root *'Nãd'* or motion. For here the *Prãna* or life principle moves (SP-p 126).It is better to call *Prãna Sakti* or *Vãta* moves.

According to late scholar of Vãrãnasi Padmavibusan Mahãmahopadhyãya Gopinãth Kavirãj, the use of the term *Nãdi* for the nerves is not correct and research based only on the nerves for *Nadi* will be misleading.

It is interesting and notable that none of the text of Ãyurveda have ever mentioned nerves. On close scrutiny, it will also be found that no mention of the nerves was specifically made from the anatomical point of views, but from the functional point of view it has been extensively dealt.

Woodroffe mentioned in his book '*Serpent Power*' that an Indian physician and Sanskritist had expressed that better anatomy is given in the *Tantras* than the purely medical works. (p 169). This statement is not correct. I also started working with the same notion that the description of nerves are best available in *Tantra* works but after an in-depth study found that no such descriptions are there.

The *Manovahã-Nãdi* is the actual *Nãdi* which plays all the meditational game in *Yoga* and *Tantra*. The various *Nãdis* (channels) mentioned by different schools have their secret meaning and analogy, according to their own schools, which can only be understood through their own *Gurus*.

In most of the works we find an approximate counting of the total number of *Nãdis* and enumeration of the few. Taking the total number of *Nãdis* in the human body we find a great difference of opinion amongst the various authorities (Ghosh, E. N., 1925, pp 83-90).

Ekendra Nath Ghosh dealt with *Nãdis* in great detail in the Journal of Ãyurveda. Taking the total number of *Nãdis* in the human body, we find a great difference of opinion amongst the various authorities. The total number of *Nãdis* mentioned by various texts are as follows,

Texts	*No. of Nadis*
Prasnopnishad	720,000,000 (100 × 200 × 72,000)
Gautamiya Tantra	35,000,000
Tantrasãra	35,000,000
Rudrayãmala Tantra	35,000,000
Siva Samhitã	350,000
Prapanchasãra Tantra	300,000
Bhutasuddhi Tantra	72,000
Sãradãtilaka	50,000

In some of the books on pulse science are,

Texts	*No. of Nadis*
Nãdiyutpatti	72,000
Nãdipariksha	72,000
Nãdi Sãstra Samgraha	72,000
Nãdi Nidãnam	72,000
Nãdichakrabhedi	72,000

The number enumerated with some descriptions by different texts are:

Texts	*No. of Nādis*
Nadisāstra Samgraha	20
Gadasanjivani Nādisamgraha	16
Bramhavaivarta Purāna (Bramha Khanda)	16
Siva Samhitā	14
Nādisastra Samgraha (another text on pulse)	14
Nādichakra Vidhi	14
Nādi Nidāna	14
Yogasikhopanishad	12
Vaidyasāstra	11
Trisikhibrāhmanyapanishad	10
Yogachudamanyupanishad	10
Vaidyasastra (another text on Pulse)	9
Kālajnana-Nadi Pariksha	8
Nadipariksha	8

Table 13.1 Principal Nadis in Various Texts

Nadisastrasamgraha

20 Nādis

— Sushumnā
— Idā
— Pingalā
— Viswodari
— Gāndhari
— Sankhini
— Yasaswini
— Saraswati
— Hastijihva
— Varuni
— Payaswini
— Chitrini
— Padmini
— Kuhu
— Pusha
— Alambusha
— Dhamani
— Mandara
— Brahmā
— Vishnu

(Contd)

Brahmavaivartapurāna

16 Nādis

— Sushumnā
— Idā
— Pingalā
— Medhya
— Prānadhārini
— Sarvajnanaprada
— Manassanjayamani
— Visuddha
— Niruddha
— Vayusanchārini
— Tejasukhakari
— Balapustikāri
— Buddhisanchārini
— Gyānajrimbhanakārini
— Punarjivanakārini
— Sarvaprānahara

Sivasamhitā

Nādinidāna

Nādichakravidhi

Nādisāstrasamgraha

14 Nādis

— Sushumnā
— Idā
— Pingalā
— Gāndhari
— Hastijihbā
— Kuhu
— Saraswati
— Pusha
— Sankhini
— Payaswini
— Varuni
— Alambusa
— Visvodari
— Yasaswini

Varāhopanishad

14 Nādis

— Sushumnā
— Alambushā
— Kuhu

(Contd)

— Varuna
— Yasaswini
— Pingalā
— Pusha
— Payaswini
— Saraswati
— Sankhini
— Gāndhari
— Idā
— Hatijihva
— Visvodari

Yogasikhopanishad

12 Nādis

— Gāndhari
— Hastijihvā
— Pusha
— Alambushā
— Sura
— Viswodari
— Saraswati
— Vakahbaya
— Sankhini
— Kuhu
— Varuni
— Chitrā

Vaidyasāstra

11 Nādis

— Padmini
— Chitrini
— Sankhini
— Bhārati
— Visvodari
— Gāndhari
— Pingalā
— Sushumnā
— Pusha
— Idā
— Hastijihbā

Trisikhibrāhmanyapanishad

10 Nādis

— Sushumnā
— Idā

- Pingalã
- Gãndhari
- Hastijihva
- Pusha
- Yasaswini
- Alambusha
- Suva
- Kausaki

Yogachudamanyupanishad

9 Nãdis

- Idã
- Pingalã
- Sushumnã
- Hastijihvã
- Pusha
- Yasaswini
- Alambushã
- Kuhu
- Sankhini

Vaidyasâstra

9 Nãdis

- Idã
- Pingalã
- Sushumnã
- Pushã
- Alambu
- Gandhari
- Gajajihvã
- Kuhuka
- Sankhini

Kãlajnananadiparikshã

Nãdiparikshã

8 Nãdis

- Idã
- Pingalã
- Pushã
- Sushumnã
- Sankhini
- Kuhu
- Gãndhari
- Gajajihvã

Prof. D.S. Gaur (1964) mentioned in his book *Anatomical Terminology of Āyurveda* the *Nādi* means vessels, cord, meatus, canal or tube.

Dr D.N. Banerji (1951) mentioned in his book *Āyurveda Shārira* (vol. 1) that, "Āyurveda has definitely recognized the function of the autonomic nervous system. The function of different forms of *Vāyu*, namely, the functions of *Prānavāyu* is regulating the heart, lungs and intake of food, the functions of *Samānavāyu* in regulating the process of digestion, those of *Apānavāyu* is regulating the process of excretion, parturition and the functions of the *Vyānavāyu* in regulating the vasomotor functions, are those of the Autonomic Nervous System." Notable thing here is that, the functions of the Autonomic Nervous System has been described but not the nerves structurally.

Charaka mentioned in *his Charaka Samhitā* that, "The term Nādi . . . means in Ayurvedic language, any channel, such as the sinus, umbilical cord, intestines, etc.". (CS. Vi. 5)

Conclusion

The term *Nādi* is to be understood as a channel or tract only, as we find in *Vedas*, as a general term and not specifically as artery or nerve only.

14

Prãna: The Life Factor

Sruti said, '*Deha-Dhãrana Sakti hi Prãna,*' i.e., the power that holds on to this material body is called *Prãna,* the Life Factor. *Prãna* is responsible for conversion of food products into body-stuff. From the food stuffs all the *Gyãna-Srotas* are formed by *Prãna* (*Aswamedha* 17). The ten *Prãnas* are responsible for the flow of *Anna-Rasas* through the *Nãdis* (channels) (*Shantiparva* 185-Ref. *Aranya,* p. 479). *Prãna* means life in a living being.

The knowledge of *Prãna* (*Prãna-vidya*) is the science of life and in modern terminology is known as Biology. *Prãna* is not *Vãyu* (*vedãnta-sutra*), but *Vãyu* is essential for maintenance of *Prãna. Prãna* is an indicator of life but *Vãyu* is only a flow or the motion of energy or force, like electric current passing through a wire, which has no life, but is a motive force.

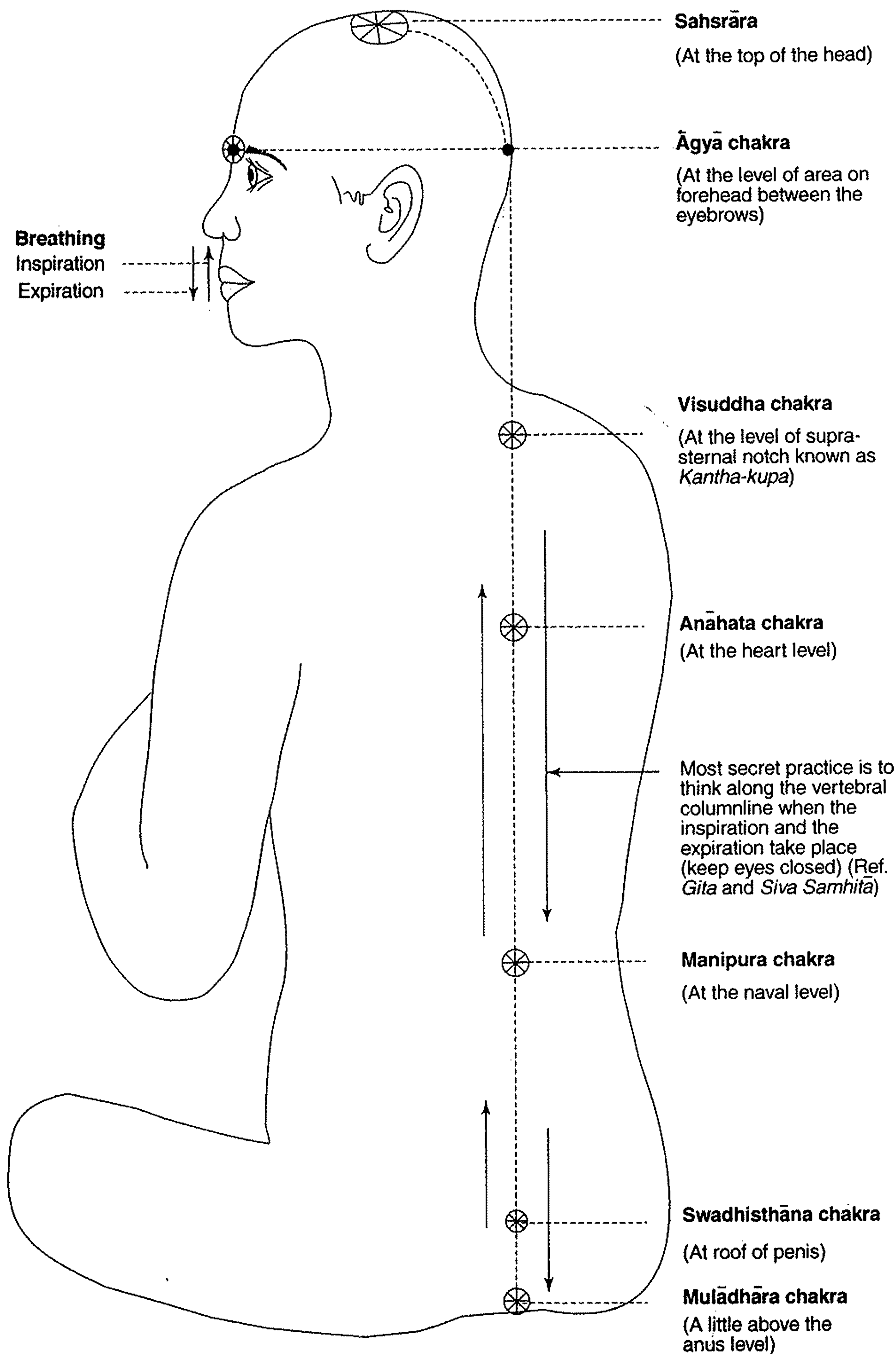
Let us take a unicellular organism Amoeba. The chyle having *Vãyu, Pitta* and *Kapha* or Regulator (force or energy), catabolism and anabolism in any unicellular organism is due to *Prãna.* When the activities of these in cycle stops, the cell becomes lifeless and *Prãna* goes off.

So, we find that, the energy (*Sakti*) for *Deha* (body) *Dhãrana* (holding) taken from external substances, food, water and air are converted into body components made up of *Panchabhuta* is responsible for having *Prãna* in a living being. *Prãna Sakti* is nothing but energy called *Vãyu* or *Vãta.*

In Chinese medical science, *Prãna* has often been interpreted as *Chi* by the Chinese and as *Qi* or *Ki* by the Japanese. *Prãna* mentioned in the ancient Indian philosophical texts, *Yoga, Tantra* and Ãyurveda is not '*chi*' but instead '*chi*' energy resembles *Vãyu* or *Vãta,* the motive regulatory force of the living being as we observe in Ãyurveda. This *Vãyu* in the body gets increased and decreased. This energy or *Vãyu* or the motive force is derived from the food, liquid and air we take from the external source (that is why called *Bãhyakarna*) inside our body.

The western Chinese acupuncture books often mention that '*chi*' of Chinese resembles *Prãna* in Ayurveda, but it is not so. It is *Vãyu* or *Vãta* which resemble Chinese '*chi*' in all its activities.

In ancient philosophical texts ten types of *Prãnas* are mentioned whose qualities resemble those of *Vãyu. Prãna* (life) in Ãyurveda is not treatable but the motive force present in the living body having *Prãna* (life) is treatable. So Ãyurveda treats various types of *Vãyu. Vãyu* activates all the processes of the body. *Vãyu* is essential and a vehicle for the forces of energy. It is the



Source Based on *kriya-yogā* as thought by Sri Satyacharan Lāhiri at Varanasi, grandson of Yogiraj Shyāmācharan Lāhiri (Lāhirimasayā)

Fig. 14.1 *Secret of kriya yoga develoved by Lāhirimasāya*

Vãyu which is mentioned as *Prãna* or *Prãna-Sakti* (energy) which governs the whole *Prãna-Kriya*, that is, the activities of the whole nervous system. Without the activity of the *Vãyu*, Life (*Prãna*) cannot be there. In ancient texts of *Yoga* and philosophy, the term *Prãna* for *Prãna Sakti* (energy) has been used often for *Vãyu* or *Vãta*, that is why activities of *Prãna* and *Vãyu* resembles very much.

In *Kriyã-yoga* practice, we find while breathing, the inspiratory pull of *Vayu* or *Vãta* energy along the line of the vertebral column on the back side of the body is also known as *Prãna*. In *Yoga* practice when this inspiration and expiration becomes very faint, it seems as if it has stopped and this situation is called *Kumbhaka*. This condition is achieved by practising secret *prãnãyama* known as *Sahit* and *Kevali Kumbhaka*, which is learnt under the guidance of a *Guru*. These *Prãnãyãmas* do *Bhuta-Suddhi*, which purifies or cleans the meditational channels in the body and helps in the realization of *bhutas* inside our body by meditation on various *chakra* levels.

It is well known in *yoga* practice that when the *Prãna* activity is steady, the mind in the head also becomes steady. That means during *Kumbhaka* (retention of breath for a larger period), where inspiration-expiration flow stops, the mind becomes steady. The objective of *yoga* is to direct this mind upwards towards *Buddhi* and ultimately to *Sahaskara lotus* or *chakra* on the top of the head and conscious feeling of the *Panchabhautic* body goes and the flow of mind downward through the three *Srotas* of *Gyãnendriyas*, *Karmenduyas* and five types *Vãyus* or *Prãnãdi* (as *Prãna* is the just name of the five types of *Vayus*) which gives the realization of *Panchabhautic sharir* again. The movement of mind in the head upwards and downwards is known as *Chitta* and remains there in the brain as airy or etherial material. The control of this *Chitta-Vritti*, the fluctuating mind is the whole objective of *yoga*. At this stage prolonged meditational practice helps one to understand self, his soul and the Universal soul. This stage is known is *Nirvãna*.

The flow of energy in the body moving upwards while doing meditational practice has been grouped into three types of forces or *Srotas*.

1. The *Gyãnendriyas* are brought under control by closing the eyes and by practising deep relaxation or *Yoga-Nidrã* meditational exercises by which mental attachment with the external (objective) *Panchabhautic* substances gradually stops.
2. The motor activities of *Karmendriyas* come under control while practising *Yoga-Nidrã* or deep relaxation meditational methods when the conscious mind takes a joy-ride through the various parts inside the body. This is known as the second type of force.
3. Lastly it is *Prãna* and *Pranãdi* or the five types of *Vãyu* (*Prãna*, *Apãna*, *Udãna*, *Samãna* and *Vyãna*) which are responsible for the sustenance of *Prãna* (life) in the body. It is the third force which is brought under control by the practice of *Kriya-Yoga*. It requires prolonged practice and is learnt from a *Guru* or may prove harmful. The basic rule here is that the back side of the body is considered as *Nivritti-muki*, i.e., detachment side of mind, because while viewing in front gives *Pravritti*, i.e., attachment. Here conscious mind is taken up and down rhythmically through the various *chakras* in a straight line while having inspiratory pull through the nose upward and then releasing it downward, realising as the air is moving through the vertebral column smoothly from the *Mulãdhãr chakra* to *Ãgyã-chakra* level and then back to *Mulãdhãr chakra*. During this practice, the vegetative functions of the Autonomic nervous system also come under control.

Now, let us come to the word *Spandana* which is often used in *Yoga-shāstra* (texts). *Spandana* means pulsation, which means a rhythm or sometime coming and going in a cycle. This *Spandana* is the transformation at work in the rhythm of growth and decay, in the changes from the flower to the fruit or the child to the old man. In Chinese, lungs are principally concerned with the '*chi*' the vital force acting in the body. In ancient days a person is said to be dead when breathing stopped completely. It was not like the present day, when the activity of heart stops, we call the person is dead. Breathing is a rhythmic action which acts through the respiratory centres.

According to Swāmi Vivekānanda, as stated in his book *Raja-Yoga* (p. 33), "*Prānāyāma* as many think, something about breath. Breath indeed has very little to do with it. Breathing is only one of the many exercises through which we get to the real *Prānāyāma. Prānayāma* means control of *Prana.*" Further he said (pp. 41-42), *Prānāyāma* really means controlling this motion of the lungs and this motion is associated with the breath. Not that breath is producing it, on the contrary it is producing breath. This motion draws in the air by pump action. The *Prāna* is moving the lungs, the movement of the lungs draws in the air (see the figure of respiratory centres). So *Prānāyāma* is not breathing but controlling that muscular power which moves the lungs. That muscular power which goes out through the nerves to the muscles and from there to the lungs, making them move in a certain manner, is the *Prāna,* which we have to control in the practice of *Prānāyāma.* "When the *Prāna* comes under control then we shall immediately find that all other actions are under control."

It may also be noted that when a child is born or coming out of the mother's womb, the lungs remain in a collapsed state. When the child cries after coming out, it is an indication that the child is going to live. If child does not cry and goes on becoming blue, it indicates that the child is going to die because of deficiency of oxygen due to collapsed state of the lungs. It is the carbon dioxide that stimulates the respiratory centres, due to which the lungs get inflated and the child gives a cry of life. (Ref to Gray's Anatomy). Heart of an infant beats in the womb but lungs remain in a collapsed state. But when lungs get inflated and function, then only a new born survives. It is now clear that the respiratory centre in the brain is responsible for the life of a child after birth. Before the birth, heart functions and body tissues get oxygen from mother's blood, but after delivery when the umbilical cord is severed, a sudden lack of oxygen develops in the body. If the lungs do not get inflated, the child will not get oxygen and becomes blue, but a cry indicates that the lungs is inflated and the child has started receiving oxygen from the external source. This is the reason why in *Yoga* the inspiratory force is called the *Prāna* activity because it is responsible for *Prāna* (life) giving and the force is known as *Prāna Vāyu*. From here we can clearly make out that oxygen is not *Prāna* but it is essential for *Prāna* for holding (*Dehadhārana*) of the body.

Swami Vivekananda rightly said in his book *Rāja Yoga* (p 27) that, "Breath is the fly-wheel of this machine, the body. In a big (steam) engine you find the fly-wheel first moving and that motion is conveyed to finer and finer machinery until the most delicate and finest mechanism in the machine is in motion. The breath is that flywheel supplying and regulating the motive power of everything in this body." So from here we observe how much these respiratory centres are responsible for *Prāna* (life) in the body and controlling the mind.

Vivekãnanda further said (p. 29), "In this body of ours the breath motion is the 'Silken thread', by laying hold of and learning to control it, we grasp the pack thread of currents, and from these the stout twine of our thoughts, and lastly the rope of *Prãna*, controlling which we reach freedom." Again he said (pp. 29-30) that, "We have to get hold of that which is setting the whole engine in motion. That is the *Prãna*, the most obvious manifestation of which is the breath. Then along with the breath, we shall slowly enter the body which will enable to find out the suitable forces, the nerve currents that are moving all over the body. As soon as we perceive and learn to feel them, we begin to gain control over them and over the body. The mind is also set in motion by these different nerve currents, so at least we shall reach the state of perfect control over the body, and the mind making both our servants. Knowledge is power, we have to get this power. So we must begin at the beginning, the *Prãnayama*, retraining the *Prãna.*"

From the above we can safely state that, as the flywheel or respiratory circuit of inspiratory and expiratory flow from respiratory centre or *Spandana* (pulsation) in the brain starts, the finer motions (may be called *Srotas*, streams or currents) start all over body bringing life and vitality to every cell and muscles, but we do not feel them. When mind changes into will the nerve currents change into a motion is similar to electricity also known as *Vãyu* in Ãyurveda.

Breathing exercises tend to bring a rhythmic action to the body and helps the respiratory centre to control other centres.

Now it is very clear that the definite location of respiratory centres are in the brain, in the lower part of pons and Medulla oblongata and the area along with the respiratory centre is the *Prãna-Kendra.* Once this *Prãna-kendra* is brought under control by the practice of *Kumbhaka* (suspension of breathing) then *Prãna* all over the physical body will come under control and when *Prãna* becomes steady, the *manas* (mind) also becomes steady, and this is how mind is related with breathing. It is clear now *Prãna* is a life factor and for its maintenance *Prãna vãyu* (inspiratory neural force) and external air (having oxygen) called *Prãna* (responsible for life) are essential but oxygen and *Prãna vãyu* is not *Prãna* (life). In Chinese Traditional Medicine all the activities of '*chi*' resembles *Vãyu* or *Vãta* of Ãyurveda.

PRÃNA AND TRIDOSHA

Prãna or *Prãna-Kriyã* sustains the body, which is represented as an interplay of the Bioregulating Principles *Vãyu*, *Pitta* and *Kapha* moving in the body of a living being in a circuit. In other words they can be mentioned as Regulator, Heating Principles and Cooling Principles; *Brahmã, Vishnu, Maheswara;* or *Sattwa, Rãjas* and *Tãmas.*

According to Vãgbhata (AS. Su. 20; AH. Su. 12), the *Prãna-Vãyu* stays in the head and from this place comes down to the throat and thorax as *Prãna-Vãyu.* As a rule, so we shall say, that the special seat of *Prãna-Vãyu* is in the heart. It may be noted that the seat of *Prãna* is in heart, just like *Manas* and *Chetakã* in the heart, but the actual location of it is in the brain in the respiratory centres and the area around at the lower pons and medulla oblongata.

Swami Vivekananda said, "Out of this *Prãna* is evolved everything that we call energy, everything that we call force. It is the *Prãna* that is manifesting as motion (Author call it *Vãyu* in Ãyurveda); it is the *Prãna* that is manifesting as the actions of the body, as the nerve currents,

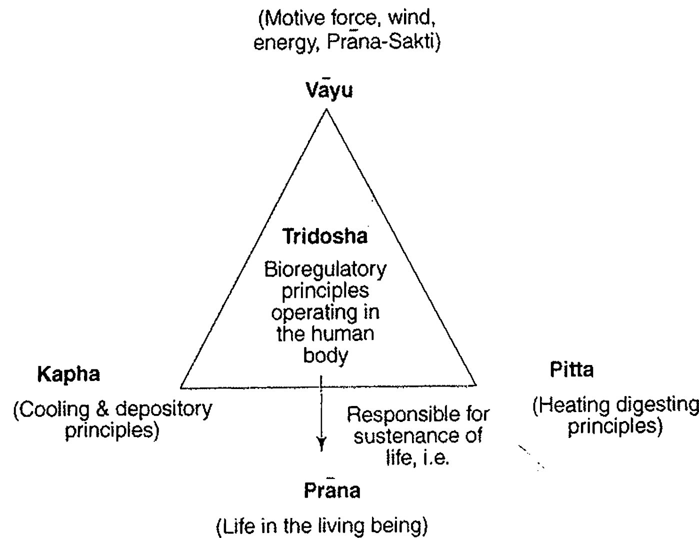


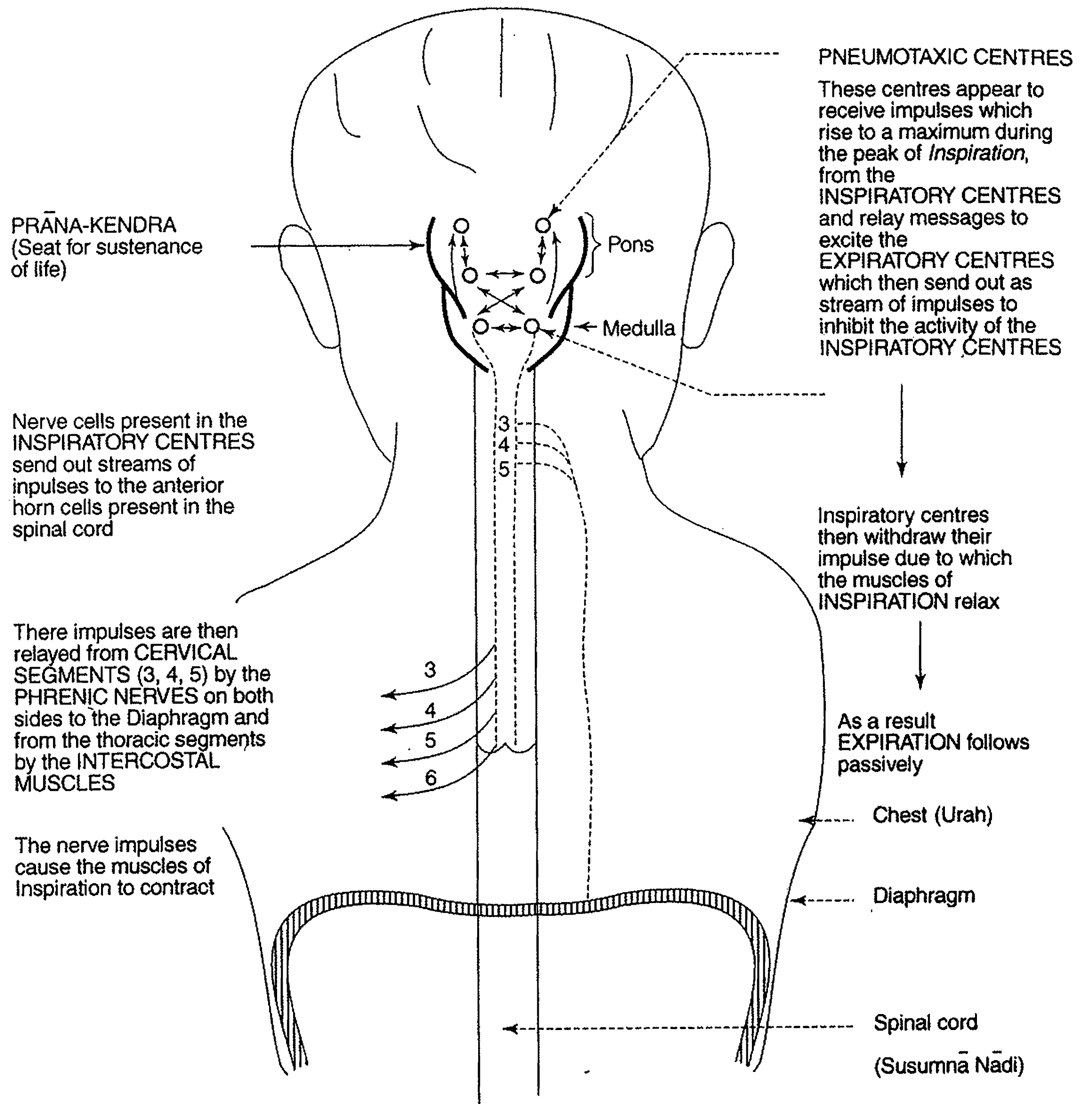
Fig. 14.2

as thought force. From thought down the lowest force, everything is but the manifestation of *Prãna*" (*Rãjayoga* p. 34) "The little wave of the *Prãna* which represents our energies, mental and physical, is the nearest to us in all the ways of the infinite ocean of *Prãna.* If we succeed in controlling that little wave, then we can hope to control the whole *Prãna*" (p. 37) "All manifestations of the subtle forces of the body, the different manifestations of *Prãna,* if trained, give push to the mind, help it to go higher and become super-consciousness from where it acts" (p. 38) "When a man has concentrated his energies, he masters *Prãna* in his body. When a man is meditating, he is also concentrating *Prãna*" (pp. 46-47) "*Rãja-Yoga* is the science which teaches us how to gain power of concentration" (p. 49) "When the *Prãna* has become controlled, then we shall immediately find that all the other actions of the *Prãna* in the body will slowly come under control" (p. 42). This means when the breathing is under control the *Prãna* in other words all the five types of *Vayu* responsible for sustainance of *Prãna* also comes under control.

RESPIRATORY CENTRES AND NERVOUS CONTROL OF RESPIRATORY MOVEMENTS

Respiratory Movements are normally involuntary and are carried out without conscious control, automatically. This happens through the rhythmical discharge of nerve impulses controlling centres present in the pons and MEDULLA OBLONGATA in the Brain.

Respiratory centres in the brain is the fly-wheel. Once the inspiratory and expiratory flow starts in this, the *Spandana,* movement of the wheel in circuit starts. Once this wheel starts, then all other wheels in the body start moving. At birth, lungs remain in collapsed state. Once the respiratory centres get stimulated due to Carbon Dioxide because of oxygen deficiency, the inspiration starts so the *Prãna* starts working in the infants body. *Yoga* says when these inspiratory and expiratory centres come to a standstill by the practice of *Kumbhaka* in *Pranayama* mind also becomes steady automatically.



Source Illustrated physiology by MacNaught & Collander Robin (1870)

Fig. 14.3

15

Health Village/Resort According to Ãyurvedic Principles—A Proposal

Since time immemorial, Indian Medical System—Ãyurveda has been laid down the main objective of Human Health as synchronizing a *Healthy Body and Healthy Mind* which is possible only by association with nature.

When Ãyurveda defines Human (body), it does not mean only the corpulent body. In the same way, when health is referred to it does not mean the corpulent body but mind as well.

In Indian Medical System, the Human Health has been described very precisely as—if the body is healthy, the mind shall always be healthy. This shall be the state of constant health. If the physique is unhealthy, the mental physique shall also be unhealthy. Consequently, our instincts shall not be good and our physical body would suffer from different diseases. Therefore, our body and mind are inter-dependent.

Self control (to restrain one's sensual impulses) is required for a healthy mind which is possible by living in a natural atmosphere.

The following are the fundamental elements for maintaining life in a natural atmosphere:

1. Natural Food
2. Spiritual Performance
3. *Yoga*

1. NATURAL FOOD

Food, Air and Water are the main sources of energy for the body. It is, therefore, very essential that food, water and air should be pure and balanced, as essentially required for normal health. Food determines human mind and mentality and is responsible for various diseases in the physique. In Ãyurveda, consistency has been maintained in the food and the three disorders of body (*VÃTA, PITTA, KAPHA*) and the nature—as such the particular disease is caused by eating certain food stuff in the particular season. This supports the narration that the food is not only

meant for energy for body but is also essential for a healthy mind and healthy mentality. This state is the state of perfect health.

2. SPIRITUAL PERFORMANCE

The body is corpulent, mind is subtle and the soul subtler, immortal and free from all disorders and faults. When soul acquires body, the mind is then a part of the body. The mind is the only source of our mentalities; the clarity of the mind is the basic element of health. The spiritual performance, therefore, acts as an exercise which keeps our mind and mentality healthy.

3. YOGA

For keeping the corpulent body free from diseases, our ancient sages studied nature thoroughly and from that control can be established on one's impulses, physical and mental health by putting our body in different postures.

In the modern age, when we are in an indiscriminate race of industrialization and urbanization, we are going ahead with unnatural way of living life. The environmental pollution and unnatural food stuff are making our heart and mental-faculties unhealthy. Consequently, the human health is constantly deteriorating. It can obviously be seen at many levels.

(a) Psychological Deterioration
(b) Physical Deterioration
(c) Deterioration of Life Span

PSYCHOLOGICAL DETERIORATION

In the modern society, materialism has become one single object of life. Consequently, human being has drowned into the unlimited ocean of desires and the mind indulges badly in the cyclone of these desires.

When the illusion of desires turn into failures, man begins to pass life in a dreadful and tragic situation. He then acts in wrong and right ways with great zeal to change his failure into successes. These are the same acts which lead him away from human sensitivity and social values and his mentality becomes dangerous for the main social stream. This is the point from where the downfall of man's character begins and mind treads towards criminal activities. As a result, man begins to step in feeble mindedness, dejection, escapism and restlessness, etc.

In the present day materialistic society, environmentally polluted contaminated food and intoxicated drugs take man away from nature and fill his body with different constituents of disease. The present day suffering from physical senility, diabetes, hyper and hypo-tension, indigestion, insomnia and many other frustrations result from following an indisciplined life-style.

DETERIORATION OF LIFE SPAN

In the time of the *Vedas* (ancient Indian texts), human life was determined as being hundred years or more.

This longevity was possible with the help of Indian medicinal system, natural care and natural life style. But in the present age, life-span has been significantly reduced to an average of fifty years, but that too is not free from diseases.

In view of the above reasons, it becomes necessary that human health should remain freely secured in close association of nature. For this purpose medicinal plants in the forests need to be fully explored.

The present hygiene and medical system do not establish consistency with nature. The corpulent body is their main objective and also the heart, mind, mentality food and physical activities, etc.

THE PROJECT OF PROPOSED HEALTH VILLAGE/RESORT

This hypothesis is for such a health village/resort which can provide all health facilities as well as complete mental and physical health in which different alternative safer medical methods (like Herbal Therapy, Naturopathy, Magnetotherapy, Acupressure, Herbal Massage, Hypnotherapy, Yoga Exercises, Meditation, Spiritual Songs in addition to Acupuncture and Homeopathy) along with natural dietetics and physical activities, etc., may determine the norms of treatment. It will provide natural environment, natural food system as well as modern medical (emergency and investigations) facilities and alternative safer medical methods of the world under one roof.

All the best medical facilities shall be provided in accordance with that all the arrangement in the institute of international repute and therefore collaboration will be available here. This experiment shall perhaps be the world's first and unique effort in the field of food, science and medicinal plants, directly linked with the medicare and collaboration into rural and tribal citizens.

RESEARCH AND DEVELOPMENT BLOCK

The ancient Indian cultures were mainly based on nature, whereas the modern science is taking man away from nature. The research of development activities performed in this block shall be for the development of all blocks in the Health Village/Resort. This block will also take active part to interact the natural life style with other alternative safer therapies for incurable diseases for which medical facilities have no remedy.

In ancient days Āyurvedic therapy had some basic requirements for effective cure.

1. Patient should have proper physical and mental rest.
2. Diet according to disease and disorders based on *Doshas*.
3. Follow-up of daily and seasonal routines.

4. Therapies based on *Sodhana* (body purification), Herbal Massage and naturally available herbal medicines.
5. Natural environment with fresh air and purified water.

In big cities all these facilities are not easily available to a common person which in a village with limited population is possible. If local people are trained a little bit, they can serve better. There is no requirement of outstation staff, accommodation for them and schooling for their children. With a very limited expenditure mud-houses or cheaper construction can be taken up and instead of spending exorbitantly on building and staff. This valuable money can be utilized for rural people and people staying in remote areas under proper supervision.

16

A Concise Survey of the Ancient Texts in India Related to Science

In the study of ancient Indian classical literatures, many of us often fail to understand the chronology and the development of sciences in India. This is very important in relation to the development of the ancient Indian medical science.

These classical literatures will be discussed under the following heads:

A. Pre-*vedic* (or pre-historic) period
B. *Vedic* period (includes the *Upanisad* and the *Vedãnta*)
C. *Nãstic Darsanas*
D. *Sad Darsanas*
E. *Chikitsã Sãstra* (Medical Treatise)
F. *Mahãkãvyas* (Epics)
G. *Purãna*
H. *Tantra Sãstra*

Ancient India was known as *Bhãratvarsa,* named after a legendary monarch Bharata, according to the *Visnu-Purãna.* The word India is derived by the Greeks from the Persicized form of the Sanskrit term *Sindhu* (the river).

The anthropologists believe that the terrain now known as Siwaliks (a later phase of the Himãlayan elevation) might have been the home of early man in India. Stone tools discovered in this area indicate perhaps 150,000 years ago. Geologically it is believed that during the Mesozoic era (about 230 million years ago) a great part of the present Himãlayan region was beneath the sea (called the Tethys Sea). The gradual uplift of the Himãlayas is supposed to have occurred about 30 to 40 million years ago.

The middle Paleolithic Age in India corresponds to 25,000 B.C. and the late stone age to 5000 B.C.

However, in the region covering Punjãb, Sind, Rajaputãnã, Saurãstra and Baluchisthãn, there flourished a civilization during 2300 to 1750 B.C., which was by far the largest of the world's three most ancient civilizations, covering an area of roughly 840,000 square miles.

A. PRE-VEDIC PERIOD

The Pre-*Vedic* period is from Prehistoric times to 1500 B.C. We start here with the Harãppãn Culture (the Bronze Age civilization of the Indus Valley). In India the history of science and technology begins naturally with the Indus valley civilization, which is often referred to as the Harãppãn Culture (the so called Indus valley civilization), Harãppã along with Mahenjo-dãro being the important sites of archaeological value in the Indus valley. The Harãppãn culture showed certain original characteristics and underwent its own civilizational experiences.

Apart from use of metals the people of Harãppã knew the use of minerals for ornamental, cosmetic and medical purposes. They paved streets, had water supply, public baths, drainage systems, etc., in their urban living settlements. They knew spinning and weaving and were well known for the burnt-brick and mortar constructions.

The citizens of Harãppã had attained a good level of agricultural practices, even though the plough was not in use. Likewise, the metals, iron was unknown to the people of the Indus valley, and of the animals, horse was probably not used then. The plough, iron and the horse of a superior breed began to be used in India by a new set of people of a new social order, whose thoughts and practices have come down to us in the form of various literary compositions known as the *Vedas*, *Brãhmanas*, *Ãranyakas* and the *Upanisadas*. The new set of people sometimes referred to as the Aryans, made notable contributions to the development of science and technology in India from about 15th cent. B.C.

B. VEDIC PERIOD

The *Vedic* period is from 1500 to 600 B.C. During this period developed the early Indian cultural history, chemical knowledge and practices of a new set of people with a new social order. These people are often referred to as the Indo-Aryans who are believed to have settled first in North-Western India and later gradually extended their settlements over the whole of Northern India. The chronological range of the Harãppãn culture was recognized till recently to be 2500 to 1500 B.C.

In course of time the Aryans might have mixed with non-Aryans or the early inhabitants, assimilating or giving a new dimension to the cultural practices of the latter. They followed sacred hymns, rituals and thoughts which went under the names of the *Vedas*, the *Brãhmanas*, the *Ãranyakas* and the *Upanisadas*.

The *Rigveda-samhitã*, the earliest literary composition of this period mentions the use of metals including gold. The general term used for the metal is *Ayas* which might have meant copper, bronze or lead.

There is no doubt that the word *Ayas* began to mean iron. Archaeological evidence indicates that iron was introduced in India in about 1000 to 800 B.C. The *Vedic* period metal workers had the technical knowledge of using copper and bronze for the production of appliances for domestic as well as ritual purposes. The fermented drinks and the methods of fermentation were known to the *Vedic* people.

The *Vedic* literatures including *Brãhmana* and the *Upanisada* excluding *Vedãnga* known as *Sruti*. The word *Sruti* is derived from the root *'Sru'* means to heart abstract formative *'ti'*. So *Sruti* means 'revealed knowledge'. It is that knowledge which is seen (observed and experienced) by the *Rishis* (sages), therefore without authorship.

The word *Veda* is derived from the Sanskrit root *'vid'* which means 'to know'. *Veda* is the generic name for the most ancient sacred literature of the ancient Indians consisting of four collections (where *Samhitãs* mean put together, joined, attached) called:

1. *Rigveda*—hymns of Gods
2. *Sãmaveda*—priests chants
3. *Yajurveda*—sacrificial formulae in prose; and
4. *Atharvaveda*—magical chants.

Each of the above four *Vedas* is divided into two broad divisions, viz., *Mantra* and *Brãhmana*. *Mantra* (hymns) in collected form is called *Samhitã*, whereas *Brãhmana* deals elaborately with *Yagya* and is a kind of explanatory book of *Mantras*. *Brãhmana* precepts or commands, include (i) *Ãranyakas* (theology) and (ii) *Upanisada* (philosophy).

As mentioned above, the *Vedas* are classified as revealed literature or *Sruti*. The *Vedas* contain the first philosophical thoughts and are regarded as the final authority. Tradition calls saint *Vyãsa*, the arranger and the compiler of the *Vedas* in their present form.

The *Brãhmanas* have three parts; *Brãhmana*, *Ãranyaka* (in which thoughts were composed in the forests, i.e., practical experiences) and the *Upanisada*. All these texts are known as *Sruti*. Another meaning of the word *Brãhmana* is *Yagya*. The *Ãranyaka* is the later part (*Uttarabhãga*) of *Brãhmana*. The work *Ãranyaka* means texts readable in forests. The *Brãhmana* is for the people who lead family-life (*Grihasta*) while *Ãranyaka* is for those who stay away from cities in jungles (*Vãnaprastha*).

Mantra-Samhitãs are four. They are *Rig*, *Yajur*, *Sãma* and *Atharva*. Collection of these *Mantras* were made by Rishi Vedavyãsa.

There are three types of *Prasthãn Granthas* in the Indian philosophies, which are based on the *Vedic Dharma* (philosophy). The *Prasthãn Trayi's* (three) are:

(a) *Upanisadas* (secret doctrines)
(b) Gists of the *Upanisadas* in the *Gitã* and
(c) Collection of the *Upanisada* explanations (*Vyãkyãs*) known as *Brahma-Sutra* prepared by the saint *Badarãyan Vyãs*. These are small books on *Yãg-yagyas* discussed in detail and written to understand the meaning of the *Veda*.

THE VEDIC LITERATURE

Vedas are considered as revealed (*Sruti*) knowledge handed down from generation by a unique method of oral transmission.

The *Vedic* literature is the oldest Indian classical literature. The complete literature has been conveniently grouped according to the content and chronology in a general way in three distinct classes, e.g.,

1. The *Samhitãs*
2. The *Brãhmanas*

3. The *Āranyakas-Upanisadas*

There is a great deal of unity and intermixture of materials among the three divisions, despite this classification. Chronologically *Samhitās* are older than the *Brāhmanas* and *Brāhmanas* than the *Āranyakas-Upanisadas.*

1. The Samhitas

The *Samhitās* are lyrical collections of hymns, prayers, invocations, sacrificial and magical formula of which a great variety must have existed at one time, depending on the numerous families of the *Vedic* bards. We now possess only four such great collections known as *Rig, Sāma Yajur* and *Atharva Veda.*

(i) **The Rigveda (RV)** This is the book of verses (*Richas*) or hymns and prayers (*Mantras*) to be recited during sacrifices and rituals.
The *Rigveda* is the most ancient and important collection. It consists of 1028 hymns and 10,462 *Richas* distributed over ten *mandalas* or books.
Here interest in medicine is reflected from the fact that the *Vedic Gods* occasionally play the roles of physicians providing remedies. The foremost among them are the twin brothers *Asvins*, who had the power of healing the blind; the thin and feeble and men with broken bones (RV. X. 39. 3. 5).

(ii) **The Sāmaveda (SV)** It is an anthology of the *Rigveda* and is a collection of songs and verses. It is the book of melodies (*Sāmanas*) in accordance with which the *Richas* are to be sung. The majority of the verses are borrowed from the *Rigveda*. It is a source book of great importance for the study of the most ancient history of Indian music. As a derivative work, it is posterior to *Rigveda.*

(iii) **The Yajurveda (YV)** It is a compendium of sacrificial formulae (*Yajumsi*). It is available again under two distinct groups, the black and the white. In the former, the *Mantras* are followed by and after intermingled with theological discussions and explanations, in prose, called *Brahmanas*, whereas, in the latter the *Mantras* are carefully separated from the *Brāhmanas* and the materials are treated in a more systematic manner.
The importance of the *Yajurveda* texts is in possessing several passages of considerable astronomical significance. *Nakshatras* are mentioned here.
From the medical point of view the *Yajurveda* texts also contain information of importance, though not differing from other *Samhitās* except of course the *Atharvaveda* whose importance in relation to medicine is mentioned below.
Rudra in the *Vedic* literature is represented as one possessing great strength and power and as cause of terror is described in the *Yajurveda*, as the first divine physician the idea is also found in the *Rigveda* where this terror-inspiring *Rudra* is also famed as the best of all physicians (RV. II. 33.4).
About different diseases, the *white-Yajurveda* mentions 100 types of *Yaksmā*, including *Rajyaksmā* (tuberculosis) and the legend of *Soma*, the moon being afflicted by the disease (YV, XII. 97).
A large number of plant remedies are recommended for curing diseases in the various recensions of the *Yajurveda*. In this connection references to plant structures, physiology and classification are also met with in this *Samhitā*.

(iv) **The Atharvaveda** It consists of 731 hymns and about 6000 verses grouped under 20 books of which first 18 form the *Atharvaveda* proper and the last two supplementary additions of comparatively recent date.
Its borrowing from the *Rigveda* is considerable, as much as 1/7th deriving without variation from the *Richas* belonging to books X, I and VIII. But quite a large number of verses are original and bear marks of great antiquity.

The *Atharvaveda* mentions 77 diseases. One peculiarity of the *Atharvaveda* is in its recognition of worms as the causes of many diseases.
The *Atharvaveda* is also very rich in anatomical nomenclature. The physiological role of *Prāna* as an organic and cosmic force is well attested in the *Samhitās*, including the *Atharvaveda*.

2. The Brahmanas

The *Brahmanas* are the second great division of the *Vedic* literature, and have been styled as the 'science of sacrifice'. *Satapatha-Brāhmana* being one of them. Winternitz has traced the genesis of this class of literature to the gradual dispersal of the *Brāhmana* communities from Punjab to the Eastern and Southern parts of the country and to the necessity of dividing sacrificial duties among different classes of priests, viz., the *Hotār*, the *Udgātar*, the *Adhvaryu* (the performer of the actual sacrificial act) and the *Brāhmana* or high priest.

Many astronomical, anatomical, pathological, physiological ideas and concepts and information regarding plant and animal life assumed clearer perspective through *Brāhmanic* interpretations.

3. The Aranyakas–Upanisadas

The third division of the *Vedic* literature comprises the forest texts (*Āranyakas*) and the secret doctrines (*Upanisadas*), which arose out of the *Samhitās* and the *Brāhmans* of the different *Vedic* schools.

The *Upanisadas* are regarded as the source of the *Vedānta* and *Samkhya* philosophies. The *Upanisadas* form a part of the *Āranyaka*, the 'forest treatises, so called because they were composed by the forest dwelling *Brāhmanical* sages.

The *Upanisada* is concerned with the nature of the man and the Universe. The fundamental doctrine is that of the identity of the individual soul or self (*Ātmā*) with the universal self (*Brahmā*). The *Upanisadas* tacitly assume that, like the macrocosm, the microcosm represented by the human body is also constituted of the five elements (*Yathāloke Tathā Pinde*). On this basis the whole concept of holistic Indian Medical Science, the Āyurveda developed.

The word *Upanisada* is derived from preposition '*upa*' meaning towards '*ni*' meaning down root '*sad*' meaning 'to sit'. This means sitting opposite to the teacher to receive instructions, the philosophical portions of the *Vedas*, which is concerned with the nature of the human being and the universe.

The basic doctrine of the *Upanisada* is that of the identity of the individual soul or self (*Ātman*) with the universal self (*Brahma*).

The *Upanisadas* form a part of the *Āranyaka*, which in turn is a part of *Brāhmana* (the precept portion of the *Veda*) whose contents can be classified under two heads:

(a) *Vidhi*, ritualistic rules and
(b) *Arthavāda*, the explanations.

The *Brāhmanas* include the *Āranyakas* and the *Upanisadas*. The date of the *Upanisada* is probably from the 8th cent. B.C.

There are 108 *Upanisadas* mentioned in the ancient texts and 13 of them are generally listed as the oldest ones, viz.:

1. Chandogya
2. *Brihadāranyaka*
3. *Aitereya*
4. *Taittiriya*
5. *Katha*
6. *Isā*
7. *Munda*
8. *Kausika*
9. *Kena*
10. *Prasna*
11. *Svetāsvatara*
12. *Māndukya*
13. *Maitri*

VEDĀNGAS

The word *Vedānga* is derived the root *'vid'* meaning 'to know' *'anga'* meaning limb, member, body, subdivision. So *Vedānga* means 'limb of the *Veda*', the generic name for six sciences regarded as auxiliary to the *Veda*, written in the form of *Sutra* (i.e., in short sentences or on the basis of aphoristic rules or any work or manual consisting of strings of such rules hanging together like threads.

The term *Sutra* is applied to the original textbooks as opposed to explanatory works style. *Vedāngas* are designed to teach how to recite, understand and apply the *Vedic* texts. In *Vedāngas*, the *Vedic* ideas were elaborately explained in the form of stories by various teachers. Later on *Vedāngas* started developing on the basis of various subjects.

The six *Vedāngas* are:

(i) *Vyākarana* (grammar) as the *Mukha* (mouth) of the *Veda*
(ii) *Jotisa* (astronomy) as *netra* (eyes) of the *Veda*
(iii) *Nirukta* (etymology) as the *soutra* (ears) of the *Veda*
(iv) *Kalpa* (religious ceremony) as *hasta* (hands) of the *Veda* it deals with
  (a) *Soutra-Sutra*
  (b) *Griha-Sutra*
  (c) *Dharma-Sutra*: *Smriti* developed on the basis of this.
  (d) *Sulabha-Sutra*: deals with architecture
(v) *Sikshā* (phonetics) are *nāka* (nose) of the *Veda*; and
(vi) *Chanda* (metre) as *Pāda* (foot) of the *Veda*.

The term *Smriti* is derived from the root *'Smar'*, which means traditional knowledge as opposed to *Sruti*. *Smriti* is that knowledge which has been remembered by the ancient sages, the *Rishis*. All the development after the *Sruti* is *Smriti*. *Smriti* developed later during *Vedānga* period on the basis of the *kalpa* dealing with the religions ceremonies of *vedānta* dealing with *Dharma-Sutras*. Actual development of *Smriti* took place after the Buddhist period as scholars say.

After the *Brāhmana* period or *Brāhmanakāla,* the *Sutrakāla* starts, from where we come out and move to *Smriti.* The texts in this period used few words which carried more meaning. This became necessary because *Yāg-yagya* became extensive. During this period it became necessary to understand the *Veda,* so keeping in view these facts, these texts were prepared. This is reason why they are called the *Vedānga.*

The study of the six *Vedāngas* developed within the *Vedic* schools themselves as a necessary condition for mastering the *Vedas.* Being works of human specialists, these are called *Vedāngas* or *auxiliary* sciences of the *Veda.*

Sutra, Bhāsya and Sloka

The authors of the *Vedānga* adopted in general the *Sutra* or the highly condensed aphoristic style intended to sum-up only the pith of the learning in short sentences, generally using norms after compounded great length and avoiding the use of verbs as far as possible.

The main purpose was to facilitate easy memorization of a vast body of ritualistic and other material. From the point of precision and brevity, there is probably nothing like these *Sutras* of the Indians in the entire world literature.

The *Sutra* style became so dominant a feature that this was adopted without question by the various philosophical schools, the grammarians, phoneticians, specialists on metrics and by the writers of the *Arthasāstra,* the *Kāmasāstra,* the *Nātyasastra* and so on.

On account of great economy of words and the avoidance of verbs, the *Sutras* always remained enigmatic except to the initiated. For this reason another literary style, the *Bhāsya* had to be developed. This aimed at elucidating the *Sutras* sometimes in the form of dialogue between the teacher and student. In this style, often the opposite views were first brought in, their insufficiencies expanded and the solutions given at the end. The service rendered to the development of this form of writing by the great *Bhāyakāras* like *Patanjali, Vātsyāyana* and *Sankara,* to mention a few need hardly be overestimated.

If the *Sutras* necessitated the *Bhāsyas,* they also paved the way for development of the *Sloka* form of composition, adopted in the *Dharmasāstra,* medical texts, mathematical and astronomical works, encyclopaedic treatises like the Brihat-Samhitā and in arts and sciences in general. The main advantage of this form is that it is easy to write and memorize and therefore readily appeals to the scholar. One comparatively simple meter commonly followed scientific compositions is the *Āryā* although more complex meters are also used.

After the development of these different styles of composition, several authors tended to use one or more of them simultaneously in their works, of which medical or *Chikitsā Samhitās* are convenient examples.

Of the various *Vedāngas* mentioned, we may leave aside the phonetics largely concerned with the rules of pronunciation, but others contain matters of scientific importance.

The *Kalpa Sutras* (dealing with religious ceremonies) are available in four different classes, i.e., the *Soutra,* the *Grihya,* the *Dharma* and *Sulabha.* The *Manu Smriti* or *Dharma Sāstra* and later *Smritis* originated from *Dharma Sāstras,* one of the great divisions of the *Kalpasutras.* The mythical *Manu Smriti* is mentioned in the *Tattireya Samhitā* and finally the epic Mahābhārata preserves a considerable portion of it.

The Philosophical Sutras and Bhãsyas

We have seen how the philosophical ideas already embedded in the Samhitãs and the Brãhmanas were sorted out to a new kind of disputation and developed a new type of literature which culminated in the *Upanisadas.*

During the *Sutra* period, we notice the advent of different philosophical studies adhering to different opinions and giving expressions to them in *Sutra* style of writing.

The doctrines summed up in these *Sutras* are described by the term *Darsana* which literally means 'views' or in other words, 'points of view' 'systems', etc.

Several writers have enumerated the prevalent philosophical systems differently, but here we may distinguish between orthodox systems of *Brãhmanas* theoretically based more or less on the authority of the *Vedas* and the orthodox systems represented by the Buddhists and the Jaina schools and by the materialistic schools of the *Nãstikas*, the *Lokãyatas* and the *Chãrvãkas.*

C. NÃSTIC-DARSANAS

Moksha-Sãstra in the Indian philosophies (*Darsanas*) are of two types. They are *Nãstic* and *Ãstic Darsanas.*

The *Nãstic Darsanas* speak against the *Veda* and do not accept the *Veda*. These philosophies are mainly three. They are (a) *Chãrbãk* (b) *Jain* and (c) *Buddistic*. The other one is *Ãstic Darsanas,* which respect the *Veda* are *Sad-Darsanas.*

The materialistic views of the *Nãstics,* the *Chãrbãks* and *Lokãyatas* have not survived in independent works but their fragments have been preserved for posterity in the form of refutations of other schools fundamentally opposed to them. Basically, opposed to the vedas and other philosophical schools, these materialists have denied the existence of the soul, considered life and consciousness as products of the combination of matter, did not believe in after life, reward of action, virtue or vice and placed their role in reliance on some sort of Epicurian enjoyment of life. In the present state of our knowledge, it is not possible to say whether these orthodox schools of thought had any effect on the progress of science or secular learning.

The *Nãstic Darsanas* are quite ancient and developed around 500 B.C. or before. The three *Nãstic* philosophies are:

(a) Chãrbãk Darsana

According to it *Sharir* (body) is *Ãtmã* (soul) and after death there is *Mukti* (liberation). So their attitude and philosophy is live and enjoy life happily, if needed even by taking loans and consuming *ghee* (clarified butter) and good food, because after death who is going to pay. They did not believe in rebirth.

(b) Jain Darsana

According to this philosophy, "*Ahimsã Hi Parama Dharma.*" According to it *Padãrthas* are six in number. They are *Jiva, Pudgal, Ãkãsh, Kãla, Dharma* and *Adharma*. The originator of this *Darsana* is Lord Mahãvira.

(c) Buddha Darsana

Its originator is Lord Buddha. Buddhist philosophy has big literary wealth. Buddha gave his sermons in Pāli language. The main book on Buddhism is *Tripitak*. The text *Mahāyana* was written in Sanskrit in a later period. This philosophy has four types of sects, the *Sampradāyas*.

(i) *Baibhāsic*
(ii) *Saulrāntic*
(iii) *Yogāchār*
(iv) *Mādhyamic*

The birth of Buddha took place at Lumbini, on the Indo-Nepal border around 556 B.C.

The orthodox philosophies are traditionally recognized to be six, which are paired in three groups on account of certain fundamental affinities and agreement between the two members of the pair. They are the *Purvamimāmsā* and the *Uttaramimāmsā* or the *Vedānta*; the *Sāmkhya* and the Yoga; and the *Nyāya* and the *Vaisesika*. Historians say that the *Sāmkhya* and the *Yoga* might have been developed by 300 B.C.; the *Nyāya* between 200 to 400 A.D. The *Purvamimānsā* and the *Vaisesika* might have been composed a little earlier. These will be discussed in the section of *Sad-Darsanas*.

D. SAD-DARSANAS

The word *'Sad'* means six and the word *Darsana* is derived from the root *'dris'* meaning 'to see'. The term *Darsana* in Sanskrit is used for philosophy.

According to the Indian tradition, there is only one ultimate reality, but there are six fundamental interpretations of the Realities which are called "six-insights" or *Sad-Darsanas*.

The *Sad-Darsanas* give the human being, the insight of the sensible and enable one to understand in the light of reason and the super-sensible. It is only through the experience of the *Risis* or Sages, the truths are attainable through the revealed scriptures.

The *Sad-Darsanas* or the six philosophies are:

(i) *Sāmkhya*
(ii) *Yoga*
(iii) *Nyāya*
(iv) *Vaisesika*
(v) *Mimāmsā* or *Purva-Mimāmsā*
(vi) *Vedānta* or *Uttar-Mimāmsā*

All other schools of thought are but variations of these six.

It is of great importance to know the Indian philosophies that one realizes the basis of all the six schools is the same. Together, these philosophies form a graduated interpretation of the ultimate reality. These six philosophies form the classical philosophical systems of India. These philosophies are not the creation of any one mind, nor the discovery of any single individual. The real founders of these philosophies are unknown and plenty of controversies are there as when they were first reduced to writing; but none of these conditions detracts the value of their principles.

These six philosophies together form a graduated interpretation of the Ultimate Reality and are interrelated in such a way that the hypothesis and method of each is dependent upon the other. In any way they are not contradictory nor antagonistic to one another, because all lead to the same practical end, the liberation of the soul and the knowledge of the absolute.

The *Sad-Darsanas* have many common characteristics. All of them grew out of the *Upanisada*. The six philosophies are delivered in the *Sutra* style, i.e., as aphorisms, because they are extremely concise and avoid all unnecessary repetition and use a rigid economy of words. This makes them difficult to understand them correctly in their original form, without the use of commentaries, because they use many of the same terms, but each system of the *Sad-Darsanas* gives their own meaning to the terms used.

For study purpose, the six philosophies have been classified into three divisions:

(a) *Sãmkhya-Yoga* These sets forth an account of the cosmic evolution on pure logical principles.
(b) *Nyãya-Vaisesika* Describes the methodology of science and elaborates the concepts of chemistry and physics to show how manifestation of phenomenon comes into being.
(c) *Mimãnisã-Vedãnta* These analyses critically the basic principles, developing them in greater detail and furnishing arguments to substantiate, as well as make incidental contribution on points of special interest.

Each school is based on the same metaphysical principles. Each of them are discussed below individually.

(i) SÃMKHYA

The term *Sãmkhya* first appears in the *Svetãsvatara Upanisad* and means that which concerns the number and appropriately so inasmuch as it frequently resorts to enumeration, categorization and hierarchical classification, etc., as opposed to practice implied in the *Yoga*.

The first striking fact about the *Sãmkhya* doctrines is that these are non-*Brãhmanic* in the sense that their bases are not to be found either in the *Vedic* rituals or in their beliefs and teachings. This leads to one theory of its origin outside the sphere of the *Vedic* influence, possibly in the same region which witnessed the beginning of Buddism.

In fact majority of the scholars admitted that at a certain point of time the *Samkhya* did form the philosophical basis of Buddhism. On the basis of the derivation of Buddhism from the *Sãmkhya*, Winternitz suggested that the philosophy has been in existence since 300-500 B.C.

The *Sãmkhya* idea in their various forms are met with in a variety of literature, of which mention may be made of the *Buddhacharita*, the *Mahãbhãrata* (*Moksadharma*), the *Purãnas* (Brahmã and Vishnu), the *Dharma-Sãstra*, the *Charaka Samhitã*, and in some *Tãntric* and *Ãgama* literature. This itself explains the importance of the system in influencing the development of physical concepts about the material world, medical theories and in many other spheres.

Sãmkhya is the evolution of metaphysical doctrine. This philosophy was founded by the sage Kapila who is considered as the father of the Hindu philosophy.

Sãmkhya philosophy comprehends that the universe or the macrocosm is a sum total of 25 *Tattvas* or categories. This philosophy says that all things in this world are derived from two realities, spirit and matter which are considered as the ultimate realities.

The word *Sãmkhya* is derived from the prefix '*Sãm*' means together and Sanskrit root '*Khya*' means calculate. *Sãmkhya* is the oldest of the ancient Indian philosophies, which gives the first systematic account of the process of cosmic evolution, founded by sage Kapila in 6th cent. B.C. It is called *Sãmkhya* because in its analysis of the universe, it enumerates 25 categories, the *Tattvas*.

Table 16.1

S.No.	Tattvas	English Meaning
1.	Purusa	Cosmic spirit
2.	Prakriti	Cosmic matter or substances
3.	Mahat	Cosmic intelligence
4.	Ahamkãra	Individual Principle
5.	Manas	Cosmic Mind
6.	Indriyas	Ten (abstract sense powers)
7.	Tanmãttrãs	Five sub-elements
8.	Mahãbhutas	Five sense particulars

The oldest description of the *Sãmkhya* philosophy is given in the *Sãnkhyapravachana Sutra* and its *Tattvasamãsa* ascribed by sage Kapila. The existing available systematic exposition of the *Sãmkhya* system is *Sãmkhyakãrikã* compiled by Isvarakrishna (4th cent. A.D.) which is considered to be merely a condensation of an earlier text called *Sastitantra*, of which only 70 fragments still exist.

(ii) YOGA

Yoga is a metaphysical doctrine in relation to the individual. *Yoga* was founded by sage Patanjali, 3rd cent. B.C. This is the individual aspect of the system laid down by the *Sãmkhya* doctrine and by practising which the individual can know reality by direct experience.

The term *Yoga* is derived from the Sanskrit root '*yvj*' means 'to yoke or join', based on the *Sãmkhya* system, as it applies to the individual spirit (*Jivãtmã*) and can be united or joined with the Universal spirit (*Paramãtmã*). *Yoga* is defined as the 'restraint of mental modifications'.

The whole practice is primarily based on the concept of *Patanjali Yoga-Sutras*. The *Yoga-Sutra* is attributed to Patanjali as he is different from the author in the *Mahabhãsya*. The *Sutra* refers to the Buddhist, Yogãchãra and may be dated between 3rd to 5th cent. A.D. Then there is the *Yogabhãsya* ascribed to the mythical Vyãsa (6th cent. A.D.) according to Winternitz. The *Yoga* system, particularly the offshoot, the *Hathayoga*, teaches principles and practices calculated to promote healthy body and control and cure of many pathological conditions.

Meditation

The ultimate objective of *Yoga* is meditation to have '*Chittavritti Nirodha*', that is, the cessation of the activities of the mind. This is achieved through the practice of *Pratyahāra, Dhārana* and *Dhyāna* of *Yoga*.

In the practice of meditation we find there are hundreds of methods 'going in' from external awareness to internal awareness.

In *Yoga* practice, meditation plays a key role as a very effective method of bringing mental and physical relaxation and freeing the mind from tensions and deep rooted complexes.

In meditation, one tries to have a complete knowledge of the mind to systematically train and regulate the infinite potentialities of the mind.

Yoga is an excellent medical science dealing with the systemic control of mind through various types of mental exercises which we do not have in our medical texts.

All the techniques of meditation aim at individuals through *Pratyāhara* into *Dharanā*, where pure *Dhyāna* or meditation may occur. These aspects are utilized in relaxation techniques of the body and mind through the practice of rotation of conscious mind or thoughts to various parts of the body. These techniques are used in various forms in management lectures or various other forms. Further we observe, suggestive therapy is given in deep relaxation state to change psychic conditions as we observe also in Hypnotic therapy, which is nothing but a variation of the *Yoga* technique of meditation.

Many effective techniques of meditation are there such as *Yoga-Nidrā, Pneksā-Dhyāna, Ajapā-Yoga, Nāda-Vidyā, Prāna-Vidyā, Sahaja-Yoga,* Buddhistic meditational techniques, Transcendental Meditation (TM) of Mahesh yogi, *Kriyā-Yoga,* etc. The most useful technique is *Yoga-Nidrā* developed by Swami Satyānand Saraswati who is a disciple of Swami Sivānanda Saraswati. The most advanced form of meditation is *Kriyā-yoga,* in which *Sahit* and *Kevali Kumbhaka* techniques of *Prānāyama* could be achieved, mentioned in Gheranda and Siva Samhitās.

Meditation itself comes spontaneously. To develop meditation one has to go through a whole process of relaxation by withdrawing one's awareness from the world outside from one's body, breathing, conscious and subconscious mind. It is said in *Yoga* meditation, when conscious mind is withdrawn from all these mentioned, then true meditation begins.

The eight stages of *Yoga* practice mentioned by Patanjali are known as *Rāja-Yoga* which is considered as the best way of learning *Yoga* in systematic order. This helps to achieve complete control of mind, starting from basic rules of character change in the individual and ending with the final stage of *Samādhi* or self-realization.

Eight Stages of Yoga

This is known as *Astãnga-Yoga* or eight limbs of *Yoga* practice. They are as follows:

Table 16.2 External or Preparatory Stage

S.No.	Stages	Meaning in English
1.	Yama	Ethical or social code
2.	Niyama	Personal code, self-purification through control of negative thoughts
3.	Ãsana	Body postures to give firmness and flexibility to the body
4.	Prãnãyama	Control of Prãnã, life force (Prãna-Vãyu), control of breathing which purifies nerve channels and brings lightness to the body
5.	Pratyãhãra	Sense of withdrawl, where mind is stilled, empty of thoughts

Table 16.3 Internal or Higher Stages

S.No.	Stages	Meaning in English
1.	Dhãranã	Concentration, one-pointedness. After the mind becomes focused and empty of thoughts such as Mantra or breathing
2.	Dhyãna	Pre-meditation, i.e., spontaneous concentration or meditation, the point of full understanding and awareness of the inner-self
3.	Samãdhi	Superconsciousness. The highest state of awareness

The first four stages refer to specific practices but the last four refer to states of consciousness as practice needed them. Here at first the conscious mind is withdrawn into stages of *Pratyãhãra* and then it is expanded towards Samãdhi, which is only reached when all the stages have been developed.

Hatha-yoga is mainly concerned with the external stage of development which is restricted to physical exercises or postures (*Ãsanas*) and breathing practices (*Prãnãyãma*). The source book of all the types of *Ãsanas* and *Prãnãyãmas* mentioned in original *Yoga* texts are *Gheranda-Samhitã, Siva-Samhita* and *Hathayoga-Pradipikã.* All the other forms of *Asanãs* and *Pranãyamas* are variations of these which are not mentioned in these original *Yoga* texts.

The eight stages in the practice of *Yoga* are as follows:

1. *Yama* (Rules of Conduct) The word *Yama* is derived from the Sanskrit root *'yam'* meaning together or control, check, restrain, curb. It is concerned with the moral restraint, self-control, forbearance, the first prerequisite for the study and practice of Yoga. The five Yamas or code of conducts are:

Table 16.4

S.No.	*Yamas*	*Meaning in English*
1.	Ahimsã	Not to kill, avoid harming others, non-injuring
2.	Satya	Truthfulness, not to lie
3.	Asteya	Not to steal
4.	Brahmachãrya	Sexual abstinence
5.	Aparigraha	not to be avaricious

2. *Niyama* (Rules of Inner Control) The word *Niyama* is derived from the prefix *'ni'* meaning down, into and root *'yam'* meaning to hold together, or check, curb, control, restrain. It is concerned with self-culture, regulation, etc. It is the second prerequisite to the study and practice of *Yoga*. The five rules of inner control or *Niyamas* are listed in the classic text, *Hathayogapradipikã.* They are as follows:

Table 16.5

S.No.	*Niyamas*	*Meaning in English*
1.	Saucha	Cleanliness
2.	Santosa	Contentment
3.	Tapasyã	Asceticism
4.	Swãdhyãya	Mental Japa, etc.
5.	Iswaropãsãna	Devotion to God

The *Kriyas* known as *Satkarmas,* mentioned in *Hathayoga* practices to purify the body and its practice comes under the *Niyamas.*

3. *Ãsana* (Postures) The word *Ãsana* is derived from the root *'Ãs'* meaning to sit. So *Ãsana* means posture, sitting and it is one of the stages in the practice of *Yoga.* The practice of *Ãsanas* gives firmness and flexibility to the body and tones up the whole body.

It is interesting to note that there are description of only 32 types of *Ãsanas* in the original three texts mentioned above. The practice of *Yoga* requires only a very small place which can

be an area of 3 feet by 6 feet where practice of six to eight types of postures daily keeps one fit and a flexible whole. This practice is very suitable for females and aged people. *Yoga* makes vertebral column flexible.

We are well aware that osteopath, chiropractor and Chinese acupressor massager give very much importance to the vertebral column. According to them vertebral column in the back is the cause of many types of disorders, so erect posture and tenacity of the back muscles are very important. *Yoga* practice regularly solves this problem.

Mudrãs (for *Sthiratã*) and *Bandhas* (Locks) used during the practice of *Prãnayama,* though discussed separately comes under the head *Asana* (postures).

4. *Prãnãyama* (Breathing exercises to control Prãna, the vital forces working in the body) The word *Prãnayama* is composed of *Prãna* meaning breath and *Yãma* meaning cessation or end and derived from the root '*Yam*' meaning to sustain, to hold. It is concerned with breath control by means of inhalation (*Puraka*), suspension (*Kumbhaka*) and exhalation (*Rechaka*). It is the fourth stage in the practice of *Yoga.*

Upto this stage it is called *Hathayoga* and after this stage, the practice of meditation starts.

The practice of *Prãnayãma* is very important in the practice of *Yoga* for controlling mind. The secret of it lies in *Sahit* and *Kevali-Kumbhaka* which is learnt through a *Guru,* where inspiration and expiration plays the important role in moving the conscious thought from the anal region to the head, up and down along the vertebral column as shown in Fig. 14.1 in the *Prãna* chapter.

The description of nine types of *Prãnãyama* are available in the above texts. The other techniques are only variations of the above.

5. *Pratyahãra* (Control of sense organs) The word *Pratyãhãra* is derived from *Prati* meaning towards, against an *ã* (aa) meaning to and the root '*har*' meaning to take or to hold back. It is concerned with the withdrawal of the senses (*Indriyas*) from external objects. It is the fifth stage in the practice of *Yoga* and in meditation.

6. *Dhãranã* (Concentration of mind) The word *Dhãrana* is derived from the root '*Dhar*' meaning to hold. This is concerned with the concentration and fixation of mind.

7. *Dhyãna* (Meditation) The word *Dhyãna* is derived from the root *Dhyai* meaning to think of, consider, meditate on. This is concerned with meditation and concentration of mind at a point.

8. *Samadhi* (a state of super-consciousness) The word *Samãdhi* is derived from prefix '*sam*' meaning together and *ã* meaning to and '*dhi*' meaning a placing derived from the root '*dha*' meaning to put or place. So *Samãdhi* means, 'putting together', or profound meditation. This is the final stage in the practice of *Yoga,* in which the individual becomes one with the object of meditation. Thus attaining a condition of superconsciousness and unqualified blissfulness which is emancipation (*Moksha*), i.e., free from all desires takes place.

The most ancient text on the philosophy of *Yoga* is *Yogasutra* of Patanjali. The most authoritative descriptions of *Yoga* techniques are given in classical texts of later origin the *Hathayogaprodipikã, Gheranda Samhitã* and *Siva Samhitã.*

Yoga is a pure science concerned with physical and mental fitness along with control of diet. *Yoga* gradually developed after close observation and experimentation for centuries in this

apparatus body for the control and development of the mind (*Manas*) for the final liberation of the soul and to know *Self. Yoga* includes highest discipline of body and mind, perfect co-ordination of which improves one's efficiency level and leads to greater productivity.

Yoga is concerned with the fitness of body and mind, whereas Ãyurveda is concerned with the promotion, protection and preservation of life by the use of natural materials available like medicinal plants, animal products, foods and minerals. *Yoga* and Ãyurveda are always closely interrelated but individually they play their own role. The cultural heritage of India is deeply associated with the thoughts of *Yoga* and Ãyurveda. Characters of Indian may change by living abroad but their basic cultural characteristic will not change completely even then. They will always be identified as Indian or *Bhãratiya.*

. *Yoga* helps to lead a healthy and disciplined life. It brings about suppleness of the vertebral column, which helps one lead a long carefree life. As per *Yoga* rules, one should eat less food, so that it gets fully digested and produces more energy in the body. *Yoga* is scientific and teaches practical application of meditation to everyday life.

Regular *Yoga* practice helps to improve body flexibility of the older age group people and is very ideal for them. The whole practice of *Yoga* is mainly based on the concept of *Patanjalis Yoga Sutra* and has its big philosophical and health care impact on Ãyurveda.

The concept of Suggestive or Hypnotic Therapy, Deep Relaxation Technique (widely used in management training programmes) are very closely related with *Yoga.* It will not be wrong to say that they are the offshoots of the principles of *Yoga* with some variations in the techniques, which are useful in treating cases of Insomnia, excessive stress, drug addiction and alcoholism, increasing memory and self-confidence and to control many types of psychic problems in an individual.

(iii) NYÃYA DARSANA

It discusses the means by which the knowledge of ultimate reality may be gained.

The term *Nyãya* means 'method', 'rule', justice', etc., but philosophically it signifies 'logic' or 'reasoning'. Later it developed itself in some sort of syllogism in five parts. The founder of the *Nyãya* system is Gautama. The important point in the development of the *Nyãya Sutra* is that similar theories or logic appear in the medical texts of *Charaka Samhitã,* which proves the existence of the *Nyãy-Sutra* from the beginning of the Christian era or ever from pre-Christian era. The proto-layers of the *Nyãya-Sutra* could be found even in the 4th cent. B.C. They supported the Vaisesika views, as could be expected, a syncretic Nyãya-Vaisesika school came into being in course of time.

Nyãya philosophy is purely a system of logic, concerned with the procedure of acquiring right knowledge which classifies it under 16 topics. *Nyãya* was written around 550 B.C. It is called *Nyãya,* because it "goes into" all subjects, physical or metaphysical, and is the science of logical proof. *Nyãya* furnishes correct method of philosophical inquiry into the objects and subjects of human knowledge. This philosophy is known as *Tarka-Vidyã,* the 'science of reasoning' or *Vãdavidyã,* the 'science of discussion'. The *Nyãya-Sutra* is the principle of the *Nyãya* school of philosophy and *Nyãya Sutra* are aphorisms of *Nyãya-Darsana* ascribed to sage Gautama.

(iv) VAISESIKA DARSANA

The *Vaisesika-Darsana* relates to things to be known about that *Ultimate Reality. Vaisesika* philosophy was developed by sage Kanāda.

The *Vaisesika* system of thinking is considered to be very old. It is held by scholars to be anterior to Buddhism and possibly inspired the Jaina philosophical thinking and definitely proceeding the *Nyāya*. The *Vaisesika* is mentioned in several Buddhist texts and Jaina text *Avassaya*. The *Vaisesika* categories are mentioned in the *Charaka Samhitā.*

Vaisesika-Darsana classifies all knowledge of the objective world under nine realities it discusses, how the various combinations of these nine basic realities bring all things into being.

The word *Vaisesika* is derived from *visesa,* i.e., special property which distinguishes a thing from all other things. *Vaisesika* is so called, because it teaches that the knowledge of the nature of reality is obtained by knowing the special properties or essential differences which distinguish the nine eternal Realities or substances (*Dravyas*). They are:

Table 16.6

S.No.	*Dravyas*
1.	Earth (Prithvi)
2.	Water (Apas)
3.	Fire (Tejas)
4.	Air (Vāyu)
5.	Ether (Ākāsa)
6.	Time (Kāla)
7.	Space (Dik)
8.	Self (Ātman)
9.	Mind (Manas)

Vaisesika-Sutras are the aphorisms of *Vaisesika* Philosophy. *Vaisesika-Darsana* is also called *Moksa-Sāstra* and *Adhyātma-Sāstra.*

(v) MIMĀMSĀ

The *Mimāmsā* philosophy is concerned chiefly with the correct interpretation of the *Vedic* rituals and texts. It was founded by the sage Jaimini whose actual date is unknown.

The word *Mimāmsā* is derived from the root '*Man*', which means to reflect upon, investigate, consider, examine and literally it is the examination of the *Vedas*. It is also called *Purva-Mimāmsā* (early examination) or *Karma-Mimāmsā* (examination of the effect of actions). It concerns itself chiefly with the correct interpretation of the *Vedic* rituals and texts.

The term *Mimãmsã* (investigation) appears in all the *Vedic* literature since the *Yajurveda* and *Atharvaveda*. The word is used in the *Dharmasãstra*, Pãnini knows it and Patanjali in his *Mahãbhãsya* speaks of the *Mimamsã*. The second part of this philosophy is commonly known as the *Vedãnta* which is also known as *Uttara Mimãmsã*.

(vi) VEDÃNTA

The *Vedãnta* Philosophy in other words is known as *Uttara Mimamsã*. It is an inquiry into the nature of the *Brahma*, the ultimate principle. *Vedãnta* does not discard the findings of *Sãmkhya*, but attempts to show that there can be only one ultimate Reality which makes its appearance to the sense as an illusion or *Mãyã*.

Vedãnta analyses the process of cosmic evolution as it is virtually the same as *Sãmkhya* with only those differences which must logically follow from its original premise.

Vedãnta shows how the world with its infinite variety is only an appearance and all things are one and the same, only appearing differently.

Vedãnta deals with the relationship between God, matter and the world. The *Vedãnta Sutra* is also called a *Brahma Sutra*, *Brahmamimãmsã* and *Sãrirakamimamsã*.

E. CHIKITSÃ-SÃSTRA

The *Chikitsã-Sãstra* (medical science) developed in India before the birth of Buddha (i.e., around 556 B.C.) as *Ayurveda*. Though this science developed in the *Vedic* period, the term *Ãyurveda* does not occur anywhere in the *Vedas* but some *slokas* of *Atharavaveda* are mentioned in the Ãyurvedic texts. The most ancient Ãyurvedic classical texts are *Charaka* and *Susruta-Samhitã* which are supposed to be compiled around 1st cent. A.D. The later development of the Ãyurvedic texts are on the basis of the above two classical texts.

Ãyurveda is an holistic science which deals with the body and mind and treats a sick person as a whole and not the body only, as is done by the western schools practising these days. A revival of Ãyurveda and Alternative Medicines is taking place worldwide because their use produces least side-effect in the body and still serves most. It is ideal for the poor people in the developing world and where modern medical facilities do not reach.

F. MAHÃKÃVYAS (EPICS)

The great Indian epics, the Ramãyana and the Mahãbhãrata are known to every Indian. The Rãmãyana was written before the birth of Buddha by Rishi Bãlmiki and the Mahãbhãrata was written by Rishi Vyãsa. Srimad Bhãgavad Gitã is a portion of the great epic Mahãbhãrata.

The epic Mahãbhãrata has 220,000 lines in 18 *Parvas* plus a supplementary section on the *Harivamsa*.

The battle of Kurukshetra around which the whole epics was woven might have taken place between 350 to 650 B.C. although a much earlier date 1400 B.C. has been suggested by Prof. R.C. Majumdar.

Statements of scientific importance are scattered in the epics and are of sporadic nature. Information regarding medicine is limited to the functioning of the arteries, circulation of blood through *Nadis* (channels) issuing from the heart and the formation of lymph-chyle, blood, flesh, fat, etc. Gold has been mentioned as being of four types.

The Ramayana, dated between 200 B.C. and 200 A.D. is another popular epic which also gives us some idea as to the state of science during the period of its composition.

G. PURĀNA

The *Purānas* are considered as Mythology (study of traditional tales containing beliefs about ancient times or natural events; imaginary person or thing). Purāna means old. There are eighteen known *Purānas*, which are as follows:

Table 16.7

1.	Matsya
2.	Mārkendeya
3.	Bhavisya
4.	Bhāgavat
5.	Brahmānda
6.	Brahmavaivarta
7.	Brahma
8.	Vāmana
9.	Varāha
10.	Vishnu
11.	Vāyu
12.	Nārad
13.	Padma
14.	Linga
15.	Garura
16.	Kurma
17.	Skanda
18.	Agni

The oldest is *Vāyu Purāna* (1st to 3rd cent. A.D.) and latest is the *Srimad Bhagavat Purāna* (19th cent. A.D.).

Purãnas are distinguished by five characteristics (*Panchalakshana*), e.g., creation, recreation geneologic, cosmic cycles and account of royal dynasties. There are a large number of *Upapurãnas*. The *Puranas* have elaborate discussion of the four *Yugas*.

The *Purãnas* are supposed to have been initially compiled by the saint Vyãsa, who originally arranged and compiled the *Vedas* which were later recompiled by other sages.

The *Purãnas* are preserved teachings and doctrines of the Holy *Vedas* for the declining spirituality and mythology. The *Purãnas* are supposed to have been written by Vyãsa, who originally arranged and compiled the *Vedas* and were later recompiled by other sages. The *Purãnas* are preserved teachings and doctrines of the *Vedas* for the declining spirituality and intelligence of human being by means of story and mythology.

The word *Purãna* is derived from *Purã* which means before, formerly, of old. It consists of 18 or more sacred treatises, legendary in character and discussing the five principle topics known as *Panchalakshana* (*'Pancha'* means five and *'Lakshana'* means sign, characteristic or quality). They are:

(i) the creation of the Universe
(ii) destruction of the Universe
(iii) renovation of the Universe
(iv) generally Gods and Saints of high order or patriarchs
(v) the reigns of Manus and the theories of the solar and lunar races.

H. TANTRA

Tantra is the universal scripture (*Sãstra*) and is only a reinterpretation of the *Vedas* for the present day people living in *Kali-yuga*. It is therefore also called fifth *Veda*. It not only issued from the same source as did the *Upanisads*, but they are widespread in India. All worship in India are related with *Tantra Sãstra* because it is an outlet of *Vedas* for the use of the people living in the present days.

The word *Tantra* is derived from the root *'tan'*, which means to extend or spread and the agential suffix *'tra'* *Tantra* is stated to have been revealed by Siva for the present age (*Kali-yuga*). These texts are written in the form of dialogue between Siva and Pãrvati his female consort. When Siva answers the question, the treatise is called *Ãgama* and when Pãrvati answers the question, then the treatise is called *Nigama*.

Basically *Tantra-Sãstras* are encyclopedias of knowledge of their time derived from the *Vedas*. The common seven topics of *Tantra* are as follows:

Table 16.8

1.	Sristi	Creation
2.	Pralaya	Destruction of the Universe
3.	Devatānāmarchanam	Worship of the Gods
4.	Sādhanās	Spiritual exercise
5.	Purascharana	Rituals
6.	Sat-Karmas	Six magical powers
7.	Dayana Yoga	Meditation

Tantrasāra is a valuable compilation of works of later origin on various types of *Tantric* practices, whereas *Tantrics* are people who follow the *Tantric* doctrine. *Tantras* are said to be the encyclopedias of knowledge of their time. *Tantra* texts dealt with all subjects from the creation of the universe to the regulation of society. They have always been the storehouse of esoteric spiritual beliefs and practices, especially the spiritual source of *Yoga.*

The *Tantras* accept the *Vedas* and are in no way hostile to *Sad-Darsanas.* The main motive of *Tantra Sāstra* is to show a way for the salvation of man living in the present *Yuga* (period). It not only provides principles of speculation, but also the basis for experience. The *Tantras* not only argue, but also experiment.

Tantra-Sāstra provides a rational foundation for the spiritual exercises which helps one to have liberation during one's lifetime. It is a powerful healing science through thought powers (which is still unknown to the modern medical world).

Tantric practices are referred to as *Sādhanā* is derived from the root '*Sādh*', which means to succeed. In other words, success which leads to final liberation or freedom from restraint or emancipation of the soul.

Other philosophies give a theoretical explanation of the ultimate nature of reality that brings peace of mind but *Tantras* are responsible as a basis for the actual absorption of the essence of a person into the essence of Reality. Throughout *Tantra* philosophies, the emphasis is placed on the practical aspect of knowledge. The *Tantra Sāstras* developed around 4th cent. A.D.

Table 16.9 Chronology of Major Periods and Dynasties in Indian History from Indian National Science Academy, Delhi (1997)

Prehistoric Period

B.C.	c. 25000 and before	Early Paleolithic/Early Stone Age.
	c. 25000-5000	Middle Paleolithic/Middle Stone Age.
	c. 5000-3000	Mesolithic/Late Stone Age.
	c. 3500	Neolithic Age in Baluchistan.
	c. 3000	Agricultural communities in Baluchistan.
	c. 2500-1550	Harappa culture in Sind, Baluchistan, Panjab, Rajputana and Saurāstra.

Protohistoric Vedic Period		
B.C.	c. 1500-900	Compilation of the Hymns of the Rgveda in Panjab and Kashmir regions.
	c. 900-500	Later Vedas, Brāhmanas and early Upanishads in Gangetic region.
Historic Period		
B.C.	c. 563-483	Gautama Buddha.
	c. 542-490	Bimbisāra King of Magadha.
	c. 490-458	Ajātasatru King of Magadha
	c. 362-334	Mahāpadma Nanda, King of Magadha.
	c. 327-325	Invasion of Alexander of Macedon.
Mauryan, Kusāna and other Periods		
	c. 322-298	Chandragupta.
	c. 298-273	Bindusāra.
	c. 269-232	Asoka.
B.C.	c. 190	Greek Kingdoms in N.W. India.
	c. 183-147	Pusyāmitra Sunga.
	c. 90	Sakas invade N.W. India.
	c. 71	End of Sunga Dynasty.
	c. 50 B.C.-A.D. 250	Sātvahana Dynasty in Deccan.
A.D.	Early 1st century	Kusānas invade N.W. India.
	c. 78.- c. 101	Kaniska.
	c. 130-388	Saka Satraps in Ujjayini.
Gupta Period and others		
A.D.	c. 320-335	Chandra Gupta I.
	c. 335-375	Samudra Gupta.
	c. 375-415	Chandra Gupta II.
	c. 415-454	Kumāra Gupta I.
	c. 454	First Huna Invasion.
	c. 455-467	Skanda Gupta.
	c. 495	Second Huna Invasion.
	c. 540	End of Imperial Gupta Dynasty.
	c. 606-647	Harsa King of Kānyakubja.
Northern India (Dynasties)		
A.D.	712	Arabs occupy Sind.
	c. 730	Yasoverman of Kānyakubja.
	c. 760-1142	Pālas of Bengal and Bihar.
	c. 800-1019	Pratiharās of Kanyakubja.
	c. 916-1203	Chandellās of Bundelkhand.
	c. 950-1195	Kalacūris of Tripuri (Madhya Pradesh).

(Contd)

	c. 973-1192	Cahamānas of Ajmer.
	c. 974-1238	Chālukyas of Gujarat.
	c. 974-1060	Paramaras of Dhārā (Malwa).
	c. 1118-1199	Senas of Bengal.
	1192	Second Battle of Tarain.

Southern Peninsula (Dynasties)

A.D.	c. 300-888	Pallavas of Kāñcī (Madras State).
	c. 550-757	First Chālukya Dynasty, of Vatapi (Western and Central Deccan).
	c. 757-973	Rāstrakutas of Manyakheta (Western and Central Deccan).
	c. 850-1276	Colas of Tanjore (Madras State).
	c. 973-1189	Second Chalukya Dynasty, of Kalyani (Western and Central Deccan).
	c. 1110-1327	Hoysālās of Dwarasamudra (Central and Southern Deccan).
	c. 1190-1294	Yādavas of Devagiri (Northern Deccan).
	c. 1197-1323	Kākatiyas of Warangal (Eastern Deccan).
	c. 1216-1327	Pāndyas of Madurai (Madras State).
	c. 1336-1565	Vijayanagara Empire.

Simple Grouping of Historical Periods in India

1. Ancient Period—upto 1200 A.D.
2. Medieval Period—1200 to 1800 A.D.
3. Modern Period—1800 to 1947 A.D.
4. Modern Period—from 1947 onwards.

17

Globalization of Ãyurveda

With world-wide recognition and growing popularity of Ãyurveda as the best viable alternative to meet the present day health problems, more and more people are evincing interest in studying the Ãyurvedic science in India and abroad.

Ãyurveda and *Yoga* are time-tested health sciences of ancient India propounded by the sages as a divine gift to the suffering humanity. Both are vast sciences and take years to study and master them and act as best holistic medicine in combined form.

The traditional Indian system of medicine, Ãyurveda, is the science of life that originated from the *Vedas*, the treasure house of absolute knowledge which evolved through centuries to the modern age for the welfare of mankind. It is being recognized in many eastern and western countries as the best possible alternative to meet the present day health problems with respect to both preventive as well as curative aspects.

Many countries have taken up the study of Ãyurveda and some of these include: Australia, Poland, Brazil, Pakistan, Russia, Bangladesh, Switzerland, Germany, Netherlands, Italy, South Africa, Sri Lanka, Japan, United Kingdom, Mauritius, Nepal and USA.

Recently, *The Times of India* Delhi edition dated 12-3-97, carried the news item "Ãyurveda on internet". The ancient medical therapy of Ãyurveda will now be available on the internet and will be called 'Global Telemedicine'. It will connect Ayurvedic experts of the Maharishi Vedic University through the Web.

Americans, in particular are increasingly taking to this alternative therapy and indicative of this is the setting up of an Ayurvedic college by the Maharishi International University in Fairfields, Iowa. The Maharishi University has ayurvedic medical centres in 29 countries and has treated over 90,000 patients in the USA alone.[1]

The principles of Ãyurveda is very holistic in its approach. Its fundamental principles follow health rules, knowledge of individual temperament and constitution and use of various herbs and natural products. The body purification therapy called *Panchãkarma* plays an important role in curing chronic rheumatic and neurological disorders.

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1 **Source:** *The Times of India* dated 10-10-95.

Recent studies have shown that certain medicinal plants like *Aswagandha, Satavar, Musli, Chiraita, Kutki, Tulsi* are excellent immuno-modulataors which increases resistance power in the body. Out of these *Aswagandha, Satavar* and *Musli* also increase breast milk quantity and through milk helps to increase infant's body resistance power also.

Presently in the West the body purification therapy measures along with *Rasayana,* the rejuvenating therapy, especially, for the aged, is gaining in popularity as they help to tone up the health of aged people and do not produce any harmful effects. The aged can endure it well without having any disturbance in their bio-rhythm.

The education of Āyurveda has been regularized by the Central Council of Indian Medicine, an autonomous body established under a Parliamentary act, since the last twenty-five years. All the teaching institutions are affiliated with their respective universities. Nobody can practice Āyurveda without registering with the Ayurvedic Council. At present, there are 121 ayurvedic medical institutions in which 118 colleges have facilities for undergraduate studies and 37 of them have postgraduate teaching facilities. (see Appendix I & II). There are at present more than 0.4 million ayurvedic practitioners in India and the university qualified graduates enjoy the same salary status as their allopathic counterparts in India.

In the modern day mechanized life, full of stress combined with heavy pollution, people are tired of taking costly quick-chemical therapy for the sustenance of life. Nowadays people are becoming more and more health conscious, and hence are following back in the laws for the maintenance of their health. This they do so to keep themselves fit both mentally and physically by following various alternative measures and by sticking to nutritious and balanced diet.

Modern medicine is too expensive. It strains the economy of many developed countries and undeniably beyond the reach of much of the world's population. Besides, western medicine is hardly the answer to many chronic diseases related to heart, liver, kidney and other vital parts of the human body.

Slowly, Indian doctors across America are switching over to Āyurveda and other holistic treatments. Currently, over three dozen American doctors of Indian origin have incorporated Eastern modes of treatments with Western medicine. Dr Deepak Chopra is, of course, the most famous of them. There are about 30 Indian doctors involved with the Maharishi Ayurveda college there.

There is a strong urge that has emerged in the West to understand the theoretical and fundamental concept of Āyurveda, so that future research work could be done on that basis at the University levels. This would pave way for the promotion of health by following the natural laws and natural diet. On the other side in the South-East Asian region, they are taking to Ayurvedic herbal products, as they have understood that there are many such potent Ayurvedic herbal products which could be used in their Naturopathy and Acupuncture practices in combination with other alternative therapy measures.

They use their herbal products after clearing the body channels by doing acupuncture to have more beneficial results. So they have started using Indian herbal products also to have more beneficial effect with other drugs instead of using chemical drugs. The herbal massage and body purification known as *Panchākarma* therapy for the cure of chronic diseases, especially more in aged people are gradually becoming very popular world-wide.

But now there is a new found interest to explore this invaluable medical science. This book has been written to clarify the subject matter more clearly and comprehensively.[2]

Presently there are many therapeutic practices and curing therapies known variously as Complementary, Alternative, Traditional and Holistic Medicines. It is ironical to say that the most ancient Indian and Chinese medical sciences are called as Alternative whereas logically the Allopathic medical science should have been called alternative medical science.

In the name of alternative and complementary practices many curing therapies are growing constantly and vigorously. Putting Āyurveda, Chinese Traditional Medicine and *Yoga* under this group is very derogatory as these are purely Holistic Medical sciences concerned with the cure of body and mind together. These constitute knowledge accumulated over thousands of years of practical and clinical experiences developed by the best brains and scholars in those days when birth of modern Medical science known as Allopathy did not take place.

The various practices grouped by the Alternative medical practitioners are:

- Acupressure
- Acupuncture
- Auricular Therapy
- Alexander Technique
- Art Therapy
- Aroma Therapy
- Autogenic Training and Therapy
- Auto Suggestion
- Āyurveda
- Anthroposophical Medicine
- Aurus
- Auto-immune Therapy
- Astrotherapy
- Applied Kinesiology
- Action-Patterning
- Arica
- Aura
- Bleeding
- Bircher Benner Method
- Back Flower Remedies (Flower essences)
- Bioenergetics

2 Research has been done in most of the alternative practices world-wide except for Āyurveda.

- Body Oriented Psychotherapies
- Biofeedback Training
- Biorhythmus
- Biochemic Remedies
- Barbara Brennan Healing Science
- Bonnie Prudden Myotherapy
- Breath Therapy/Breathing
- Bio-Electromagnetic
- Balneotherapy
- Bates Method of Eye-sight Training
- Biodynamic Psychology
- Cellular Therapy
- Chromo Therapy
- Colonic Hygienic and Therapy
- Chiropathy/Chiropractic
- Chinese Medicine/Medic
- Copper Treatment
- Crystals/Blood Crystals
- Cupping
- Chiropractic Network
- Craniosacral Therapy
- Clay and Mud Therapy
- Co-counselling
- Curative Eurythmy
- Cymatics
- Do-in Therapy
- Dance Drama Therapy
- Deep Tissue Body Work
- Diathermy and Microwave Therapies
- Encounter
- Esalen Massage
- Electro-magnetic Therapy
- Endogenous Endocrinology Therapy
- Enlightenment

- Exalation of Flowers
- Feldenkrasis Method
- Focusing
- Faith Healing
- Faradism
- Guided Imagery
- Galvanism
- Gems Therapy
- Gerson Therapy
- Gestalt
- Homopathy
- Hypnotherapy
- Hydrotherapy
- Heliotherapy
- Hellerwork
- Holistic Psychotherapy/Counselling
- High Protein Therapy
- Hay Diet
- High Fiber Therapy
- High Frequency Therapy
- Human Cybernetics
- Iridology/Iris Diagnosis
- Infant Massage
- Immunotherapy
- Impact Therapy
- Interferential Therapy
- Jin Shin Jyutsu
- Jamu Therapy
- Kinesiolog (T.E.H, Touch for Healing)
- Kirlian Photography
- Lakhovsky oscillatory coils
- Luscher colour Test
- Leech Therapy
- Massage Therapy

- Macrobiotics
- Manipulative Therapy
- Megavitamin Therapy
- Medical Radiesthesia
- Muscle Therapy/Myotherapy
- Metaphysical Healing
- Monodiets
- Moxibustion
- Meditation
- Magneto Therapy
- Music Therapy
- Naturopathy/Helipraktiker
- Naprapathy
- Neurolinguistic Programming (NLP)
- Neuromuscular Therapy
- Nursing Holistic
- Nutrition Therapy
- Neurophysiological Psychology
- New Primal Therapies
- Natural Vision Practice
- Orgone Therapy
- Osteopathy
- Orthomolecular Medicine
- Occupational Therapy
- Ohashiatsu
- Ortho-Bionomy
- Ozone Therapy
- Oriental Medicine and Diagnosis
- Preksha Dhyana
- Physiotherapy
- Psychodrama
- Patten Therapy
- Psychosynthesis
- Psionic Medicine

- Panchakarma Therapy
- Pulsed High Frequency Therapy
- Pyramid Healing
- Psychic Diagnosis
- Pyramid Healing
- Polarity Therapy
- Pilates Method
- Qi-Gong
- Rolfing
- Re-birthing
- Reflexology
- Regression/Past life Therapy
- Radionics
- Raw Food Therapy
- Radiant Heat
- Reiki
- Rosen Method
- Rubenfeld Synergy Method
- Sleeping Therapy
- Sensitivity Training
- Shiatsu
- Sinusoidal Current
- Somatography
- Sunbaths
- Sauna Therapy
- Shamanism
- Sports Massage
- Soma Neuromuscular Integration
- Swedish Massage
- Spa-Therapy
- Siddha Medicine
- Sound Therapy
- Spiritual Healing
- Silva Method

- Suggestive Therapy
- Sujok Acupuncture
- Taichi Chuan and Martial Arts
- Tongue Diagnosis
- Therapeutic Touch/Touch for Health
- Tibetan Medicine
- Trager work
- Teletherapy
- Tantric Therapy
- Trigger Point Therapy
- Transcendental Meditation
- Transcendental Analysis
- Urine Therapy
- Unani Medicine
- Ultrasonics
- Ultraviolet Radiation
- Vastu-chikitsa (Astro-architecture)
- Voice Therapy
- Vegetarianism
- Visualization
- Vaganism
- Vita florum
- Wheatgrass Therapy
- Wax Balls
- Wholefood Diet
- Yoga Therapy
- Yoga Nidra
- Zero Balancing

In this way, nearly 185 types of practices have been enumerated for general information. How many more are there and how many new will be developed is very difficult to state.

It is necessary to regularize all these alternative practices or complementary medicines in order to stop and control malpractices.

Āyurveda and *Yoga* applied together is the best holistic therapy possible as it is based on practical and scientific experiments performed following natural laws over thousands of years on human beings and is gradually gaining recognition globally as an effective and viable means

of promoting health. It is hoped that soon many of the medical institutions in the western and developed countries will take up both studies together at the university levels for serious and detailed research.

In September 1996, the author was at Singapore for 26 days where he gave lectures on Elementary Ãyurveda at the Singapore Acupuncture Association, who issued certificates to 10 students. They evinced great interest in learning Ãyurveda and plan to use Ãyurvedic herbal products along with their acupuncture and Naturopathy practices to have better therapeutic results instead of using chemical drugs alone. This experience clearly showed that Chinese practitioners of Alternative Medicines are very much interested to learn briefly the diagnostic and therapeutic principles, so that the Ayurvedic herbal products could be used effectively. They were failing to use Ayurvedic herbal products because books available in the market are not clearly understandable.

Recently, some students from Japan are coming in batches to India regularly to learn Ãyurveda along with the study in Indology and Buddhism besides English language during their short stay in India. The author is looking after the Ayurvedic side of teaching. All this clearly shows that how the globalization of Ãyurveda is taking place at the end of the twentieth century.

Recently, the International Academy of Ãyurveda and Holistic Medicine was formed so that correspondence courses on Ãyurveda and *Yoga* could be extended to those interested to study these fields. For further details regarding this, please contact: B-221, Chittaranjan Park, New Delhi-110019, India.

Appendix–I

CENTRAL COUNCIL OF INDIAN MEDICINE (CCIM)

Pankha Road, New Delhi 110058

List of approved undergraduate (U.G.) colleges and institutions conducting Postgraduate (P.G.) Course in Āyurveda for the year 1995-96.

S.No.	*Ayurvedic College*	*Affiliated with Universities*	*States in India (Total No. of P.G. Institutions and Speciality Subjects)*
1.*	Dr B.R.K.R. Govt. Ayurved College, S.R. Nagar, Hyderabad—500038,	University of Health Sciences, Vijayawada	**Andhra Pradesh** Total P.G. Institution = 1 U.G. Colleges = 4 P.G. Subjects in S.No. 1 College 1. Shalya Tantra 2. Shalakya Tantra 3. Prasuti 4. Kaya chikitsa 5. Dravyaguna
2.	Dr N.R. Sastry Govt. Ayurved College, Besides V.K. Bazar, Bandar Road, Vijayawada—520002	"	
3.	S.V. Ayurved College, T.T. Devasthanams, Tirupati—517507	"	

(Contd)

* Asterisk shown with the serial number indicates approved for P.G. courses also.

S.No.	Ayurvedic College	Affiliated with Universities	States in India (Total No. of P.G. Institutions and Speciality Subjects)
4.	Anantha Laxmi Govt. Ayurved College, Industrial Colony, Station Road, Warangal—506002	University of Health Sciences, Vijayawada	
5.	Govt. Ayurved College, Jalukbari, Distt. Kamrup, Guwahati—781004	Gauhati University, Guwahti	**Assam** U.G. College = 1
6.*	Govt. Ayurved College (Rajakiya Ayurved Mahavidyalaya) Kadam Kuan, Patna—800003	Bihar University Muzaffarpur	**Bihar** U.G. College = 1 Total P.G. Institution = 1 P.G. Subjects S.No. 6 College 1. Dravyaguna 2. Rasashāstra
7.	Sri Yatindra Narayan Astang Ayurved College, P.O. Champanagar, Bhagalpur—812006	"	
8.	Ravindranath Mukherji Ayurved Mahavidyalaya, Distt. Champaran (East), Motihari—845401	"	
9.	Rajakiya Ayodhya Shivkumari Ayurved Mahavidyalaya, Begusarai—850101	"	
10.	Swami, Raghavendracharya Tridandi Ayurved Mahavidyalaya, Karjara Station, P.O. Manjholi	"	
11.	PBN Institute of Indian Medical Science, Ranti Road, Madhubani—847211	Kameshwar Singh Darbhanga Sanskrit University, Darbhanga	
12.	Rajakiya Maharani Rameshwari Bharatiya Chikitsa Vigyan Sansthan, Mohanpur—846007, Darbhanga	"	
13.	Ayurved Medical College, Gaya—823001	"	
14.	Dayanand Ayurvedic Medical College and Hospital, Siwan—841266	"	
15.	Ayurved and Unani Tibbia College, Ajmal Khan Road, Karol Bagh, New Delhi—110005	University of Delhi, Delhi	**Delhi** U.G. College = 1
16.*	Govt. Akhandanand Ayurved Mahavidyalaya, opp. Victoria Garden, Bhadra, Ahmedabad—380001	Gujarat Ayurved University, Jamnagar	**Gujarat** U.G. Colleges = 9 Total P.G. Institution = 1 P.G. Subjects in S.No. 16 College 1.Kāyāchikitsā

(Contd)

S.No.	Ayurvedic College	Affiliated with Universities	States in India (Total No. of P.G. Institutions and Speciality Subjects)
17.	J.S. Ayurved Mahavidyalaya College Road, Nadiad—387001	Gujarat Ayurved University, Jamnagar	
18.	Govt. Ayurved College, Ajwa Road, Vadodara—390001	"	
19.	Aryakanya Shuddha Ayurved Mahavidyalaya, Kareli Bagh, Vadodara—390018	"	
20.	Seth J.P. Govt. Ayurvedic College, opp. Sardar Bagh, Bhadra, Bhavanagar—364001	"	
21.	Shri Balahanuman Ayurved Mahavidyalaya, At & P.O. Lodra—382835, Distt. Mehsana	"	
22.	Govt. Ayurved College, Sardar Bagh, Junagarh—362001	"	
23.	Shri O.H. Nazar Ayurved College, Near Railway Station, Shri Swami Atmanand Saraswati Road, Surat—395003	"	
24.	Shri Gulab Kunverba Ayurved Mahavidyalaya, Dhanwantari Mandir, Jamnagar—361008	"	
25.	Bharatiya Sanskrit Prabodhini's Gomantak Ayurved Mahavidyalaya and Research Centre, Shiroda	Goa University, Goa	**Goa** U.G. College = 1
26.	Shri Baba Mastnath Ayurved College, Asthal Bohar—124021 (Rohtak)	Maharishi Dayanand University, Rohtak	**Haryana** U.G. Colleges = 4
27.	Shri Maru Singh Memorial Mahila Ayurved Degree College, Kanya Gurukul, Khanpur Kalan—124301, (Sonepat)	"	
28.	Shri Krishna Govt. Ayurvedic College, Near D.C. Residence, Umri Road, Kurukshetra—132118	Kurukshetra University, Kurukshetra	
29.	Gaur Brahmin Ayurvedic College, Rohtak—124001	"	
30.	Government Ayurvedic College (Rajakiya Ayurved Mahavidyalaya) Paprola—176115, Distt. Kangra	Himachal Pradesh University, Shimla	**Himachal Pradesh** U.G. College = 1

(Contd)

S.No.	Ayurvedic College	Affiliated with Universities	States in India (Total No. of P.G. Institutions and Speciality Subjects)
31.*	Govt. College of Indian Medicine and Hospital, Vishweshwariah Circle, Sayaj Rao Road, Mysore—570021	University of Mysore, Mysore	**Karnataka** U.G. Colleges = 13 Total P.G. Institutions = 7 P.G. Subjects in S.No. 31 College 1. Kāyāchikitsā
32.	A.L.N. Rao Memorial Ayurved Mahavidyalaya, Koppa—577126, Distt. Chickmagalore	Kuvempu University, Shimoga	P.G. Subjects in S.No. 32 College 1. Dravyaguna Vigyān
33.	TAME Society's Ayurved College, Koddakotte, Bhadrawati—577303	"	
34.	Ashwini Educational Association's Ayurved College, 1831/33 Anjaneya Layout, Davangare—577004	"	
35.*	Govt. College of Indian Medicine, Dhanwantari Road, Bangalore—560009	University of Bangalore, Bangalore	P.G. Subjects in S.No. 35 College 1. Dravyaguna Vigyān 2. Shalya Tantra 3. Shālākya Tantra
36.*	Tananath Govt. Ayurvedic College, Anantapur Road, Bellary—583101	University of Gulbarga, Gulbarga	P.G. Subjects in S.No. 36 College 1. Rasashāstra and Bhaishajya Kalpanā
37.	Ayurvedic Medical College, Shri Siddharth Colony, Manhalli Road, Bidar—585403	"	
38.	T.M.A.E. Society's Ayurved Mahavidyalaya, Hospet—583201	"	
39.*	A.V. Samiti's Ayurved Mahavidyalaya, Murankeri, Bijapur—586101	Karnataka University, Dharwad	P.G. Subjects in S.No. 39 College 1. Rasashāstrā 2. Bhaishajya Kalpanā
40.*	Shri D.G.M. Ayurvedic Medical College, Kalasapur Road, Gadag—582101, Distt. Dharwad	"	P.G. Subjects in S.No. 40 College 1. Kāyā chikitsā

(Contd)

S.No.	*Ayurvedic College*	*Affiliated with Universities*	*States in India (Total No. of P.G. Institutions and Speciality Subjects)*
41.*	Ayurved Mahavidyalaya, Heggari Extension, Old Hubli—580024	Karnataka University, Dharwad	P.G. Subjects in S.No. 41 College 1. Kāyā Chikitsā
42.	Karnataka Liberal Education Society's Shri S.M. Kankanwadi Ayurved Mahavidyalaya, Shahapur, Belgaum—590003	"	
43.	Shri D.M. College of Ayurveda, Udupi—576101	Mangalore University, Mangalore	
44.	Govt. Ayurved College, Dhanwantari Nagar, Puthiya Kava, Tripunithura—682301, Distt. Ernakulam	M.G. University, Kottayam	**Kerala** U.G. Colleges = 5 Total P.G. Institution = 1
45.	V.P.S. Varier Ayurved College, Kottakkal, P.O. Edarikode—676501, Distt. Malappuram	University of Calicut, Calicut	
46.	Vaidyaratnam Ayurved College, Ollur, Thaikkattussery, Trichur—680322	"	
47.	Govt. Ayurved College, Near S.N. Park, Kannur—670001	"	
48.*	Govt. Ayurved College, M.G. Road, Thiruvananthapuram—695001	University of Kerala, Trivandrum	P.G. Subjects in S.No. 48 College 1. Shalya/Shālākya 2. Kāyāchikitsa 3. Rasashastra and Bhaishajya kalpanā 4. Dravyaguna Vigyān 5. Swāsthavritta 6. Prasuti Tantra and Striroga 7. Basic Principles
49.*	Govt. Ayurvedic College, Raipur—492002	Pt. Ravi Shankar University, Raipur	**Madhya Pradesh** U.G. Colleges = 7 Total P.G. Institutions = 2 P.G. Subjects S.No. 49 College 1. Kāyāchikitsā
50.*	Govt. Ayurvedic College and Hospital Amkho, Gwalior—474009	Jiwaji University, Gwalior	P.G. Subjects S.No. 50 College 1. Shārir Kriyā

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S.No.	*Ayurvedic College*	*Affiliated with Universities*	*States in India (Total No. of P.G. Institutions and Speciality Subjects)*
51.	Govt. Ayurvedic College and Hospital, Gorakhpur—482001, Distt. Jabalpur	Rani Durgawati Vishwavidyalaya, Jabalpu	
52.	Govt. Dhanwantari Ayurvedic College, Mangalnath Road, Ujjain—456003	Vikram University, Ujjain	
53.	Govt. Ayurved College and Hospital, Shikarpura, Burhanpur, Khandwa—450331	Hari Singh Gaur Vishwavidyalaya, Sagar	
54.	Govt. Astang Ayurved Mahavidyalaya and Hospital, Lal Bagh, Lokmanya Nagar, Indore—420009	Devi Ahilya Vishwavidyalaya, Indore	
55.	Govt. Ayurved College, Rewa—486001	Avadesh Pratap Singh Vishwavidyalaya, Rewa	
56.*	R.A. Podar Ayurvedic Medical College, Dr Annie Besant Road, Worli, Mumbai—400018	University of Bombay, Mumbai	**Maharashtra** U.G. Colleges = 36 Total P.G. Institutions = 14 P.G. Subjects in S.No. 56 College 1. Kāyā chikitsā 2. Rasa-shastra and Bhaishajya Kalpana 3. Shalya Tantra 4. Prasuti Tantra and Striroga 5. Dravyaguna Vigyān 6. Shālākya Tantra 7. Āyurved Samhitā 8. Shārir Kriya
57.*	Smt. K.G. Mittal Punarvasu Ayurveda College, Netaji Subhash Road, Mumbai—400002	"	P.G. Subjects of S.No. 57 College 1. Kāyā chikitsā 2. Samhitā 3. Dravyaguna Vigyān 4. Rasashastrā
58.*	Ayurved Mahavidyalaya, Near Sion Railway Station, Sion, Mumbai—400022	"	P.G. Subjects of S.No. 58 College 1. Dravyaguna Vigyān 2. Kāyā chikitsā 3. Āyurved Siddhanta and Samhitā

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S.No.	Āyurvedic College	Affiliated with Universities	States in India (Total No. of P.G. Institutions and Speciality Subjects)
59.	Yerala Medical Trust and Research Centres, Ayurvedic Medical College, 3rd Floor, Triveni Sangam, Municipal Bldg, Currey Road (E), Mumbai—400002	University of Bombay Mumbai	
60.	R.J.M.H. Ayurved Mahavidyalaya, Sutikagriha Campus, Khaskilwada, Sawantwadi—416510, Distt. Sidhu Durg	"	
61.*	Govt. Ayurved College, Wazirabad, Nanded—431601	Swami Ramanand Ramtirth University, Nanded	P.G. Subjects of S.No. 61 College 1. Āyurved Siddānta, Darshana and Āyurved Samhitās 2. Shārir Rachanā 3. Shārir Kriya 4. Dravyaguna Vigyān 5. Prasuti Tantra 6. Kaumārbhritya 7. Vikriti Vigyān 8. Manovigyan and Manoroga 9. Shālākya Tantra 10. Shalya Tantra 11. Kāyā Chikitsā 12. Rasashāstra 13. Diploma in Swāsthavritta
62.	Govt. Ayurved College, Tuijapur Road, Madhuban, Osmanabad—410501	"	
63.*	Govt. Ayurvedic College, Raje Raghuji Nagar, Umer Road, Nagpur—440024	Nagpur Vishwavidyalaya, Nagpur	P.G. Subjects of S.No. 63 College 1. Kāyā Chikitsā 2. Shārir Kriya 3. Shalya Tantra 4. Shārir Rachana 5. Āyurved Itihās 6. Kaumārbhritya 7. Rasashāstra 8. Diploma in Agada Tantra

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S.No.	Ayurvedic College	Affiliated with Universities	States in India (Total No. of P.G. Institutions and Speciality Subjects)
64.*	Shri Ayurved Mahavidyalaya Dhanwantari Marg, Hanuman Nagar, Nagpur—440009	Nagpur Vishwavidyalaya, Nagpur	P.G. Subjects of S.No. 64 College 1. Samhitās 2. Kāyā Chikitsā 3. Shārir Rachanā 4. Rasashastrā 5. Shārir Kriyā 6. Shālākya Tantra 7. Shalya Tantra 8. Dravyaguna Vigyān 9. Roganidān and Vikriti Vigyan And **PG Diploma Course** 1. Agada Tantra 2. Swāsthavritta 3. Kumārbhritya 4. Netraroga 5. Panchakarma 6. Rasāyan Vājikaran
65.	Bhai Saheb Mulak Ayurved Mahavidyalaya, Great Nag Road, Nandanwan, Nagpur	"	
66.*	Shri Radhakrishn Toshniwal Ayurved Mahavidyalaya, Kedia Plots, Station Road, Akola—444001	Amaravati Vishwavidyalaya, Amaravati	P.G. Subjects of S.No. 66 College 1. Shārir Rachanā 2. Shānkya Tantra 3. Samhitā Siddhānta 4. Kāyā Chikitsā 5. Diploma in Swāsthavritta
67.*	Shri H.V.P. Mandal's Vidarbha Ayurved Mahavidyalaya, Hanuman Vyayam Nagar, Amaravati—444605	"	P.G. Subjects of S.No. 67 College 1. Kāyā Chikitsā 2. Shalya Tantra 3. Shālākya Tantra 4. Diploma in Swāsthavritta

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S.No.	Ayurvedic College	Affiliated with Universities	States in India (Total No. of P.G. Institutions and Speciality Subjects)
68.*	Shri Gurudev Ayurved Mahavidyalaya, Gurukunj Ashram—444902, Distt. Amaravati	Amaravati Vishwavidyalaya, Amaravati	P.G. Subjects of S.No. 68 College 1. Samhitā 2. Rasashāstra and Bhaishajya Kalpanā 3. Kāyā Chikitsā
69.*	Shri D.M.M. Ayurved Mahavidyalaya, Arni Road, Shivaji Nagar, Yavatmal—445001	"	P.G. Subjects of S.No. 69 College 1. Kāyā Chikitsā 2. Diploma in Swāsthavritta
70.	Ayurved Mahavidyalaya, Shankar Nagar, Pusad—445201, Distt. Yeotmal	"	
71.	Gramin Ayurved Mahavidyalaya, Rahu—444501, Distt. Akola	"	
72.*	Tilak Ayurved Mahavidyalaya, 583/2, Rasta Peth, Pune—411011	University of Pune, Pune	P.G. Subjects of S.No. 72 College 1. Kāyāchikitsā 2. Rog Vigyān and Vikriti Vigyān 3. Prasuti Tantra and Striroga 4. Dravyaguna Vigyān 5. Rasashāstra 6. Shārir Rachana 7. Shārir Kriyā 8. Shālākya Tantra 9. Shalya Tantra Diploma in 1. Panchakarma 2. Swāsthavritta 3. Agadtantra 4. Rasayan and Vajikaran 5. Netraroga 6. Shālākya Tantra 7. Prasuti Tantra
73.	Astang Ayurved Mahavidyalaya, 2062, New Sadashiv Peth, Vendya H.B. Paranjape Chowk, Vijayanagar Colony, Pune—411030	"	

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S.No.	Ayurvedic College	Affiliated with Universities	States in India (Total No. of P.G. Institutions and Speciality Subjects)
74.*	Ayurved Mahavidyalaya, Near Gedge Maharaj Bridge, Ganeswadi, Panchavati, Nasik—422003	University of Pune, Pune	P.G. Subjects of S.No. 74 College 1. Kāyā Chikitsā 2. Shalya Tantra 3. Diploma in Panchakarma
75.*	Shri Gangadhar Shastri Guna Ayurved Mahavidyalaya, Vishrambag, Ahmednagar—414001	"	P.G. Subjects of S.No. 75 College 1. Kāyā Chikitsā 2. Prasuti Tantra and Striroga 3. Diploma in Panchakarma
76.	Karmavir Vyankatrao Tanaji Randhir Ayurveda College, Boradi, Tal. Shirpur, Distt. Dhule—425428	"	
77.	Vasant Dada Patil Ayurveda College, South Shivajinagar, Sangli—416416	"	
78.	Ayurved Mahavidyalaya, Shri Shivaji Nagar, Tal. Rahuri, Rahuri Factory—413706, Distt. Ahmednagar	"	
79.	Ayurved Mahavidyalaya, Hadapsar—411028, (Malwadi), Pune	"	
80.	Bhartiya Vidyapith's College of Ayurveda, Erandawane Pune—411038	"	
81.	College of Ayurveda and Research Centre, Sector 27, Akurdi, Pradhikaran, Pune—411044	"	
82.	Sangam Sevabhavi Trust's Ayurved Mahavidyalaya, Nasik-Poona Road, Sangamner—422605, Distt. Ahmednagar	"	
83.*	Sheth Chandanmal Mutha Aryangla Vaidyak Mahavidyalaya, Gendamal, Satara—415002	Shivaji University, Kolhapur	
84.	Seth Govindji Raoji Ayurved Mahavidyalaya, 21/A/13, Budhawar Peth, Samarat Chowk, Sholapur—413002	"	

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S.No.	Ayurvedic College	Affiliated with Universities	States in India (Total No. of P.G. Institutions and Speciality Subjects)
85.	Yashwant Sikshan Prasarak Mandal's Ayurved Mahavidyalaya, Peth Vadegaon, Tal. Hatkanagale, Distt. Kolhapur	Shivaji University, Kolhapur	P.G. Subjects of S.No. 85 College 1. Kāyā Chikitsā 2. Shārir Rachanā 3. Prasuti Tantra and Striroga
86.	Hanuman Shikshan Prasarak Mandal's Yashwant Ayurved Mahavidyalaya, At & P.O. Kodoli—416114, Kolhapur	"	
87.	Ganga Education Society's Ayurved Mahavidyalaya, Kolhpur—416012	"	
88.	Chhatrapati Sahu Maharaj Shikshan Ansthan Ayurved Mahavidyalaya, Aurangabad—431003	Marathwada University, Aurangabad	
89.	Chaitanya Ayurved Mahavidyalaya, Sakegaon, Bhusawal—425201	North Maharashtra University, Jalgaon	
90.	Dhule Charitable Society's Ayurved Mahavidyalaya, Daya Sagar Educational Campus, Deopur, Dhule—424002	"	
91.	Dada Saheb Surupsing Naik Ayurved Mahavidyalaya, Nagaon, Dhule—424004	"	
92.*	Gopabandhu Ayurved Mahavidyalaya, Puri—752002	Utkal University, Bhubaneshwar	**Orissa** U.G. Colleges = 4 Total P.G. Institution = 1 P.G. Subjects of S.No. 92 College 1. Kāyāchikitsā
93.	Kaviraj Ananta Tripathy Sharma Ayurved College, Ankushpur—761100, Ganjam	Behrampur University, Behrampur	
94.	Govt. Ayurved College, Bolangir—767001	Sambalpur University, Sambalpur	
95.	Shri Nrusinghanath Ayurved College and Research Institute, Nrusinghanath, P.O. Paikmal—768039, Distt. Sambalpur	"	
96.	Govt. Ayurvedic College, Patiala—147001	Punjabi University, Patiala	**Punjab** U.G. Colleges = 4
97.	Shri Lakshmi Narayan Ayurvedic College, Sant Tulsidas Marg, Amritsar—143001	Gurunanak Dev University, Amritsar	

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S.No.	Ayurvedic College	Affiliated with Universities	States in India (Total No. of P.G. Institutions and Speciality Subjects)
98.	Dayanand Ayurvedic College, Mahatma Hansraj Marg, Jalandhar City—144008	Gurunanak Dev University, Amritsar	
99.	Shri Dhanwantari Ayurvedic College and Pandit Kedarnath Memorial Ayurvedic Hospital, Sector 46-B, Chandigarh—160017	Punjab University, Chandigarh	
100.	Parasurampuria Ayurved College, Sikar—332001	University of Rajasthan, Jaipur	**Rajasthan** U.G. Colleges = 5 Total P.G. Institutions = 2
101.*	National Institute of Ayurveda, Madhav Vilas Palace, Amer Road, Jaipur—302002	"	P.G. Subjects of S.No. 101 College 1. Kāyāchikitsā 2. Rasashāstra and Bhaishajya Kalpanā 3. Dravyaguna Vigyān 4. Samhitās 5. Shārir Rachanā 6. Vikriti Vigyān 7. Shalya Tantra 8. Kaumār Bhritya 9. Shārir Kriyā
102.*	M.M.M. Govt. Ayurvedic College, Ambamata Road, Udaipur—313001	"	P.G. Subjects of S.No. 102 College 1. Rasahāstrā and Bhaishajya Kalpanā 2. Dravyaguna Vigyān 3. Kāyā Chikitsā
103.	Shri Bhanwar Lal Dugar Ayurved Vishwabharati Gandhi Vidya Mandir, Sardarshahar—331401, Distt. Churu	"	
104.	Mohta Ayurved Mahavidyalaya, Rajgarh, P.O. Sadulpur—331023, Distt. Churu	"	
105.	Shri Venkataramana Ayurved College, Kutcherry Road, Mylapore, Chennai—600004	Dr M.G.R. University, Chennai	**Tamil Nadu** U.G. Colleges = 3
106.	Ayurved College, Pathanjalipuri Via Thadgam, Coimbatore—641108		

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S.No.	*Ayurvedic College*	*Affiliated with Universities*	*States in India (Total No. of P.G. Institutions and Speciality Subjects)*
107.	Shri Chandsekharendra Saraswati Vishwa Ayurved Mahavidyalaya, P.O. Enathur Vedal—631552, (Kanchipuram)	University of Kanchi (Deemed), Kanchi	
108.*	State Ayurved College and Hospital, Tulsidas Marg, Turiaganj, Lucknow—226004	Lucknow University, Lucknow	**Uttar Pradesh** U.G. Colleges = 10 Total P.G. Institutions = 3 P.G. Subjects of S.No. 108 College 1. Shārir 2. Kāyāchikitsā
109.	Govt. Gurukul Ayurved College, Gurukul Kangari—249404, Haridwar	Kanpur University, Kanpur	
110.*	Govt. Rishikul Ayurved College, Haridwar—249401, Distt. Saharanpur	"	P.G. Subjects of S.No. 110 College 1. Rasashāstra
111.*	Rajakiya Lalit Hari Ayurved College, Pilibhit—252001	"	P.G. Subjects of S.No. 111 College 1. Dravyaguna Vigyān
112.	Bundelkhand Govt. Ayurvedic College and Hospital, Jhansi—284003	"	
113.	Govt. Ayurved College, Atarra—210201, Distt. Banda	"	
114.	S.M.R. Govt. Ayurvedic College, Dhanmandi, Bareilly—243001	"	
115.	Swami Kalyandev Govt. Ayurved College, Rampur, Muzaffar Nagar	"	
116.	Lal Bahadur Shastri Govt. Ayurved Mahavidyalaya, Handia—281503 (Allahabad)	"	
117.	Govt. Ayurved College and Hospital, Jagat Colony, Varanasi—221002	Sampurnanand Sanskrit Vishwavidyalaya, Varanasi	
118.	J.B. Roy State Ayurvedic Medical College and Hospital, 170-172, Raja Dinendra Street, Calcutta—700004	Calcutta University, Calcutta	**West Bengal** U.G. College = 1

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In addition to above three more Ayurvedic Institutions are having postgraduate courses only. In total 37 institutions are having postgraduate Ayurveda courses.

S.No.	Ayurvedic College	Affiliated with Universities	States in India (Total No. of P.G. Institutions and Speciality Subjects)
119.*	Institute of postgraduate Training and Research, Gujarat Ayurved University, Jamnagar—361001, Gujarat	It is the only University in Āyurveda in India	P.G. Subjects: 1. Kāyā Chikitsā 2. Rasashāstras Bhaishajya Kalpanā 3. Dravyaguna Vigyān 4. Samhitās 5. Vikriti Vigyān 6. Shārir Rachanā 7. Shalya Tantra 8. Kumārbhritya 9. Shārir Kriya
120.*	Institute of Medical Sciences, Banaras Hindu University, Varanasi—221005, Uttar Pradesh **N.B**: B.H.U. still admits M.B.B.S (modern medical graduates) for doing postgraduation in Āyurveda called MD (Ay) and Ph.D. This facility most of the Ayurvedic College do not have (may be available in a very few of them)	Banaras Hindu University (B.H.U.)	P.G. Subjects: 1. Basic Principle (Āyurved Darshan and Siddhānta) 2. Basic Principle (Swāsthavritta and Yoga) 3. Basic Principle (Shārir Kriyā) 4. Basic Principle (Shārir Rachanā) 5. Dravyaguna Vigyān 6. Rasashāstra 7. Kāyā Chikitsā (Vikriti Vigyān) 8. Kāyā Chikitsā (Manasroga) 9. Kaumārbhritya 10. Kāyā Chikitsā 11. Prasuti Tantra (Striroga) 12. Āyurved Samhitā
121.*	Shyamadas Vaidya Shastrapeeth, 294/3/1, Acharya Prafulla Chandra Road, Calcutta—700004, West Bengal	Calcutta University, Calcutta	P.G. Subjects: 1. Shārir 2. Kāyā Chikitsā

Appendix–II

INDIAN MEDICINE CENTRAL COUNCIL (MINIMUM STANDARDS OF EDUCATION IN ÃYURVEDA) REGULATIONS
(Under Ministry of Health and FW, Government of India)

(A) For Undergraduates:

ABSTRACTS OF THE GAZETTE OF INDIA, AUGUST 5,1989
(SRAVANA 14, 1911) (PART III-SECTION 4)

Central Council of Indian Medicine
(Minimum Standards of Education in Indian Medicine) Regulations, 1986
New Delhi-110055, the 13th July, 1989

In exercise of the powers conferred by clauses (i) and (j) of section 3 of the Indian Medicine Central Council Act, 1970(48 of 1970), the Central Council of Indian Medicine with the previous sanction of the Central Govt. hereby makes the following regulations further to amend the Indian Medicine Central Council (Minimum Standards of Education in Indian Medicine) Regulations, 1986 namely:

1. (1) These regulations may be called the Indian Medicine Central Council (Minimum Standards of Education in Indian Medicine) (Amendment) Regulations, 1989.
   (2) These regulations shall come into force with effect from 1st day of July, 1989.
2. In the Indian Medicine Central Council (Minimum Standards of Education in Indian Medicine) Regulations, 1986, for the existing Schedule I, the following shall be substituted, namely:

SCHEDULE I

1. AIMS AND OBJECTS

Ayurved education should aim at producing graduates of profound scholarship having deep basis of Ayurved with scientific knowledge in accordance with Ayurvedic fundamentals with extensive practical training who would be able and efficient teachers, research workers and *Kaya Chikitsaka* (Physicians) and *Shalyachikitsaka* (Surgeons) fully competent to serve in the medical and health services of the country.

2. ADMISSION QUALIFICATIONS

(i) 12th Standard with Science (Physics, Chemistry and Biology) and Sanskrit.
Wherever provision and facilities for teaching Sanskrit as optional subject are not available at 12th standard (Biology Science Group), the students with 12th Standard (Biology Science Group) be admitted and Sanskrit be taught in main course.

OR

Uttar Madhyama of Sampurnanand Sanskrit Vishwavidyalaya with Science and English.

OR

Any other equivalent qualification recognized by State Government and State Education Boards concerned with the examination.

(ii) The Pre-Ayurved Course of one year duration in respect of Uttar Madhyama of Higher Secondary/P.U.C. preferably with Sanskrit or an examination equivalent thereto and pre-Ayurved Course of two years duration in respect of Purvamadhyama or S.S.L.C./Matriculation preferably with Sanskrit or an examination equivalent thereto, however, will continue till 1990 if the State Government or University so desires.

3. MINIMUM AGE FOR ADMISSION

(a) 15 years as on 1st October in the year of admission for first year of Pre-Ayurved Course.
(b) 16 years as on 1st October in the year of admission for Second year of Pre-Ayurved Course.
(c) 17 years as on 1st October in the year of admission for Main Ayurved Course.

4. DURATION OF COURSE

(i) Pre-Ayurved Course-2/1 years
(ii) Degree Course-5 $\frac{1}{2}$ years
(a) I Professional-18 months
(b) II Professional-18 months
(c) III Professional-24/18 months
(d) Internship-6/12 months

The period of internship will be of 12 months in case of total duration of course of study is covered under 4 $\frac{1}{2}$ years. In case of 12 months internship training, the six months of training be provided for clinical training under various departments. The State/University desiring to continue 6 months internship may adopt Third Professional Course of 24 months so that total duration of course including internship will be of 5 $\frac{1}{2}$ years.

The first 18 months shall be occupied in the study of the non-clinical subjects. No student shall be permitted to appear in Third Professional examination until he/she has passed in all the Second Professional subjects.

5. DEGREE TO BE AWARDED

Āyurvedacharya (Bachelor of Ayurvedic Medicine and Surgery): The candidate shall be awarded *Āyurvedacharya* (Bachelor of Ayurvedic Medicine and Surgery) degree after completion of prescribed courses of study extending over the prescribed period and passing the final examina-

tion and satisfactory completion of six months/one year compulsory internship after the final examination.

6. MEDIUM OF INSTRUCTION

Sanskrit, Hindi or any recognized regional language.

7. THE NUMBER OF STUDENTS TO BE ADMITTED

The admission should be made strictly in accordance with the student-bed-ratio of 1:3, i.e., on the basis of 3 beds in the hospital attached with the college one student should be admitted every year.

The minimum number of students to be admitted in an Ayurvedic College should be 20.

8.1. FIRST PROFESSIONAL EXAMINATION (To be held at the end of $1\frac{1}{2}$ year)

(i) The first professional period shall start from 1st day of July and end on 31st December next year. The examination shall ordinarily be completed by the end of December. The supplementary examination of first Professional shall be held within two months of declaration of result. The subsequent first professional examination will be held every six months and failed candidates shall ordinarily be allowed 3 chances for passing First Professional.
However, a student failed in one or more subjects of First Professional examination may be allowed to keep tern in Second Professional Course. Only those students who passed in all subjects, shall be allowed to take on the Third Professional Examination.

(ii) The First Professional Examination shall be held in the following subjects:
1. Padarth Vigyan
2. Astang Sangraha (Sutrasthan)
3. Sanskrit
4. Ayurved Ka Itihaas
5. Rachna Sharir
6. Kriya Sharir

(iii) The candidates before presenting themselves for this examination shall obtain a certificate of completing the prescribed course of theory and practicals in the prescribed subjects of the First Professional examination.

(iv) A candidate failed in one or more subjects in examination shall be eligible to appear in supplementary examination.

(v) Candidates who fail to pass the First Professional examination in three opportunities shall not be allowed to continue their studies. However, in case of personal illness of a serious nature of a candidate and in unavoidable conditions/circumstances the Vice-Chancellor of University may permit one more opportunity for passing the first professional course.

8.2. SECOND PROFESSIONAL EXAMINATION (To be held at the end of three years)

(i) The Second Professional Course shall start in January following the First Professional examination and the examination shall be held ordinarily in June/July of year after completion of three years.

(ii) The Second Professional examination shall be held after $1\frac{1}{2}$ years of First Professional examination and in the following subjects:

(1) Ras Shastra Avam Bhesajya Kalpana
(2) Dravyagunan Vigyan
(3) Agad Tantra, Vyavhar Ayurved Avam Vidhi Vaidyak
(4) Rog Vigyan Avam Vikriti Vigyanam
(5) Charak Samhita
(6) Svasth Vritta

(iii) A candidate must pass at least one subject for being eligible to appear in supplementary examination.

(iv) The supplementary examination to Second Professional shall be held ordinarily in September and those who remain failed in one or more subjects in supplementary examination shall be eligible to appear in the subsequent Second Professional examination which may be held every six month.

(v) Such candidates who pass First Professional examination in supplementary and register for the Second Professional afterwards, shall not be allowed summer vacation and will have to undergo instructions during this period.

8.3. THIRD PROFESSIONAL EXAMINATION (To be held at the end of ($4\frac{1}{2}$)/5 years)

(i) The final Professional Examination shall be held after three academic years after the First Professional Examination and shall comprise following subjects:

1. Prasuti Tantra, Striroga
2. Kaumar Bhritya
3. Kaya Chikitsa
4. Shalya Tantra
5. Shalakya Tantra
6. Charak Samhita

(ii) If a candidate remains failed in one or more subjects in Final Professional Examination he/she shall be eligible to appear in those subjects in subsequent Third Professional examination which may be held every sixth month.

9. COMPULSORY INTERNSHIP

(a) The compulsory rotating Internship shall be completed in the teaching hospital/Ayurvedic hospital as available in respective States and dispensary and Primary Health Care Centres for the period of 6/12 months after passing the final examination.

(b) On full completion of the Internship as certified by the Principal on the recommendations of the authorities under whom the training was done, the candidate shall be eligible for the award of *Āyurvedacharya* (Bachelor of Ayurvedic Medicine and Surgery) Degree.

10. (a) The following factors may be taken into consideration in determining class work in the subject:

(i) Regularity in Attendance
(ii) Periodical tests
(iii) Laboratory record, note book and clinical history sheets as required.

(b) A class schedule card shall be maintained for each student for the different examination. The Principal shall arrange to obtain the signature of the students, teachers at the end of each course of lectures and practical instructions and send the cards to each Head of the Departments for final completion before the commencement of each examination.

(c) The card shall contain a statement the student has attended not less the $\frac{3}{4}$ of the theory lectures and practical classes and not less than 85% of clinical instructions of which the course consists. This card shall be submitted to the examiners as required.

11. EXAMINATION

(a) (i) A candidate obtaining 75% marks in the subject shall be awarded distinction in the subjects.

(ii) A candidate obtaining an aggregate of 75% in the following subjects shall be declared passed in final examination with honours:

1. Padarthavigyan
2. Rachna Sharir/Kriya Sharir
3. Dravyaguna Vigyan/Rasashastra
4. Kayachikitsa/Rog Vigyan
5. Shalya Tantra/Shalakya Tantra/Prasuti Tantra

(iii) Only those candidates shall be considered for honours or distinction who have passed the degree examination in the first attempt each part. As regards distinction in subjects, only those will be qualified for distinction who passed the respective professional examination in the first attempt.

(b) If a candidate has passed at least in one subject of the Professional examination and failed in one or more subjects, securing not less than 35% marks, shall be eligible to appear at the supplementary examination. The aggregate shall be calculated in theory and practical combined.

(c) The minimum pass marks shall be 50% in theory and practical separately in each subject.

12. NUMBER OF PAPERS AND MARKS FOR THEORY/PRACTICAL

	Subject	*No. of paper*	*Total marks in theory*	*Total marks in practical/oral*
1.	Ayurved Ka Itihas	One	100	—
2.	Sanskrit	Two	200	50
3.	Padartha Vigyan	Two	200	50
4.	Astang Sangrah	One	100	50
5.	Rachna Sharir	Two	200	200
6.	Kriya Sharir	Two	200	100
7.	Swastha Vritta	Two	200	100
8.	Dravyagun Vigyan	Two	200	200
9.	Ras Shastra Bhaishajya Kalpana	Two	200	100
10.	Agad Tantra Vyavhar Ayurved Avam Vidhi Vaidyak	One	100	100
11.	Rog Vigyan Avam Vikriti Vigyan	Two	200	100
12.	Charak Samhita	One	100	50
13.	Prasuti Tantra Avam Strirog	Two	200	100
14.	Kaumar Bhritya	One	100	100
15.	Kaya Chikitsa	Four	400	200
16.	Shalya Tantra	Two	200	100
17.	Shalakya Tantra	Two	200	100
18.	Charak Samhita	One	100	50

13.1. NUMBER OF LECTURES, PRACTICALS AND DEMONSTRATIONS FOR VARIOUS SUBJECTS

Subject	*Lectures*	*Practicals and Demonstrations*
Subjects of First Professional		
1. Ayurved Ka Itihāas	60	—
2. Sanskrit	150	—
3. Padartha Vigyan	150	30
4. Astang Sangrah	60	—
5. Rachna Sharir	210	210
6. Kriya Sharir	210	90
Subjects of Second Professional		
7. Swastha Vritta	180	50
8. Dravyaguna Vigyan	180	90
9. Ras Shastra Avam Bhaishajya Kalpana	180	90
10. Agad Tantra, Vyavhar Ayurved Avam Vidhi Vaidyak	100	50
11. Rog Vigyan Avam Vikriti Vigyan	180	90
12. Charak Samhita	100	—
Subjects of Third Professional		
13. Prasuti Tantra Avam Striroga	150	In Hospital 3 months
14. Kaumar Bhritya	90	1 month
15. Kaya Chikitsa	400	12 months
16. Shalya Tantra	210	6 months
17. Shalakya Tantra	210	4 months
18. Charak Samhita	100	—

Note: The period of theory and practical shall not be less than 60 minutes (one hour) duration. The duration of the practical of clinical subjects and Rachna Sharir (Dissection) shall be of at least 120 minutes (Two hours).

13.2. THE CLINICAL TRAINING IN THE HOSPITAL ATTACHED WITH COLLEGE TO THE STUDENTS SHALL BE AS BELOW

(i) KAYACHIKITSA (INDOOR AND OUTDOOR): 12 MONTHS
- (a) General-6 months
- (b) *Pancha Karma*-2 months
- (c) *Manas Rog*-15 days
- (d) *Sankramak Rog*-15 days
- (e) X-ray-1 month
- (f) *Atyayik*-2 months

(ii) SHALYA TANTRA (INDOOR): 6 MONTHS
- (a) General-5 months (at least one month in O.T.)
- (b) *Atyayik*-1 month

(iii) SHALAKYA TANTRA (INDOOR AND OUTDOOR): 4 MONTHS
   (a) General-3 months (atleast one month in O.T.)
   (b) *Atyayik*-1 month
(iv) PRASUTI TANTRA AVAM STRIROG: 3 MONTHS
(v) KAUMAR BHRITYA: 1 MONTH

14. QUALIFICATIONS AND EXPERIENCE FOR TEACHING STAFF (applicable for recruitments made after 1st July, 1989)

(i) ESSENTIAL
   (a) A degree in Ayurved from a University established by law or a Statutory Board/Faculty/Examining Body of Indian Medicine or its equivalent as recognized under Indian Medicine Central Council Act, 1970.
   (b) A Postgraduate qualification in the subject/speciality concerned included in the Schedule to Indian Medicine Central Council Act, 1970.
   (c) Adequate knowledge of Sanskrit
(ii) EXPERIENCE
   (a) FOR THE POST OF PROFESSOR Total teaching experience of ten years in the Department is necessary out of which there should be five years teaching experience as Reader/Asstt. Professor or 10 years experience as a Lecturer in the concerned subject wherever the posts of Reader/Asstt. Professor do not exist.
   (b) FOR THE POST OF READER Total teaching experience of five years in the subject is necessary out of which there should be three years teaching experience as Lecturer in the subject concerned.
   (c) FOR THE POST OF LECTURER No teaching experience is required.
   (d) FOR THE POST OF PRINCIPAL The qualification and experience prescribed for the post of Professor should be considered essential for the post of Principal.
(iii) DESIRABLE
   Original published papers/books on the subject

NOTE: If the Postgraduate qualification holders for the following subjects are not available, the post-graduate qualification obtained in the subject as noted against the subject shall be admissible:

Name of Subject	*Discipline of Postgraduate*	
1. Swastha Vritta	1. Kaya Chikitsa	2. Basic Principle
2. Agad Tantra	1. Kaya Chikitsa	2. Dravya Gun
3. Padartha Vigyan/Samhita/Itihas	Basic Principles	
4. Rog Vigyan	Kaya Chikitsa	
5. Rachna Sharir/Kriya Sharir	1. Sharir	2. Basic Principles
6. Shalakya	Shalakya/Shalya	
7. Nischetna Avam Ksha-Kiran	Shalya and/Shalakya	

15. APPOINTMENT OF EXAMINER IN ĀYURVEDA

No person other than approved teacher with five years teaching experience in the concerned subject shall be considered eligible to be Examiner.

Sd/-

Registrar-cum-Secretary

Central Council of Indian Medicine

(B) For Postgraduates

MINISTRY OF HEALTH AND FAMILY WELFARE
New Delhi, the 15th July, 1995

No. V, 26017/5/90-AE.—In exercise of the powers conferred by clause (i) (j) and (k) of Section 36 of Indian Medicine Central Council Act, 1970 (48 of 1970), the Central Council of Indian Medicine with the previous sanction of the Central Government hereby makes the following amendment in the Indian Medicine Central Council (Postgraduate Education) Regulations, 1979, namely:

1. These regulations may be called the Indian Medicine Central Council (Postgraduate Education) Amendment Regulation, 1994.
2. They shall come into force from the 1st day of July, 1994, in the Indian Medicine Central Council (Postgraduate Education) Regulations, 1979, for Appendix-I, the following Appendix shall be substituted, namely:

CENTRAL COUNCIL OF INDIAN MEDICINE
NEW DELHI

MINIMUM STANDARDS AND CURRICULUM FOR POSTGRADUATE COURSE IN ĀYURVEDA

1. AIMS AND OBJECTS

The aim of the Postgraduate degree course shall be the orientation in specialities and super specialities and to produce experts and specialities who can be competent and efficient teachers, clinicians, surgeons, pharmaceuticals, research workers and profound scholars in the respective field of specialization of Āyurveda.

2. SPECIALITIES IN WHICH POSTGRADUATE DEGREES CAN BE CONDUCTED

1. Āyurveda Siddanta and Darshana
2. Samhitas (a) Charaka Samhita (b) Sushruta Samhita (c) Astang Hridaya—Astang Sangraha
3. Rachna Sharir
4. Kriya Sharira (Dosh Dhatu Mala Vigyan)
5. Dravya Guna Vigyan
6. Ras Shastra
7. Bhaishajya Kalpana
8. Prasuti Tantra and Stri Roga
9. Kaumar Bhritya
10. Kayachikitsa
11. Swasthavritta
12. Rog Nidan—Vikriti Vigyan
13. Manovigyana
14. Shalaya Tantra
15. Shalakya Tantra
16. Pancha Karma

3. THE NOMENCLATURE OF POSTGRADUATE DEGREE IN RESPECTIVE SPECIALITIES SHALL BE AS FOLLOWS:

1. Ayurved Vachaspati MD (Ayurved Sidhanta)
2. Ayurved Vachaspati MD (Samhitas)
3. Ayurved Vachaspati MD (Rachana Sharir)
4. Ayurved Vachaspati MD (Kriya Sharir)
5. Ayurved Vachaspati MD (Dravya Guna)
6. Ayurved Vachaspati MD (Ras Shastra)
7. Ayurved Vachaspati MD (Bhaishajya Kalpana)
8. Ayurved Vachaspati MD (Kaumar Bhritya)
9. Ayurved Vachaspati MS (Prasuti Tantra and Stri Roga)
10. Ayurved Vachaspati MD (Swastha Vritta)
11. Ayurved Vachaspati MD (Kayachikitsa)
12. Ayurved Vachaspati MD (Rog Nidan)
13. Ayurved Vachaspati MS (Shalaya Tantra)
14. Ayurved Vachaspati MD (Shalakya Tantra)
15. Ayurved Vachaspati MD (Mano Vigyan)
16. Ayurved Vachaspati MD (Panchakarma)

ADMISSION

ELIGIBILITY

1. The degree in Āyurveda of a University/Statutory Body included in the Second Schedule in the IMCC Act, 1970.
2. Only those who have passed all the examinations at degree level in first attempt shall be eligible for admission.

MODE OF ADMISSION

2. (1) There shall be an admission committee consisting of following:
   - (i) Dean
     Chairman
   - (ii) One Principal of upgraded PG College or Centre by rotation if more than one in the faculty.
     Member
   - (iii) Two Senior Heads of PG department by rotation.
     Member
   - (iv) One expert of the subject concerned nominated by the University.
     Member

   (2) The selection shall be made strictly on the basis of merit based on the performance in the qualifying examination.

   or

   The selection shall be made strictly on the basis of one common final merit index based on written test and interview on the tests of the following index:
   - (a) Written Test Index (to be calculated out of 90 marks)
   - (b) Interview Index (to be calculated out of 10 marks) Final Index (to be calculated out of 100 marks)

(3) The candidate shall not be allowed to change their subject option in any case. The subject allotted strictly based on merit shall not be changed in any case and it shall be declared at the time of admission.
(4) The minimum marks in the final index for eligibility for admission shall be 50% (40% in the case of Reserved categories).
(5) The sponsored/deputed candidate will be required to possess the qualification essential for admission and he will also be required to complete amongst themselves and secure minimum qualifying index.
(6) The written test shall consist of one common written paper comprising objective type of question covering all the subjects of Āyurveda. The details of which shall be decided by the Selection Committee constituted for the purpose of laid down in the rules of the prospectus of studies.
(7) The number of the candidates to be called for interview (on the basis of the marks obtained in the written test) shall not exceed three times the number of seats advertised. The same rule will apply to SC/ST quota also.
(8) The name of the candidates for interview will be intimated to the interview committee without indicating the marks obtained in the written test.

PERIOD OF STUDY AND ATTENDANCE

(1) The candidates have to undergo a period of study for three years after admission, out of which one year shall be devoted to Preliminary course and next two years devoted to Speciality Course.
(2) The students will be required to attend atleast 75% of total lectures, practicals and clinicals separately to become eligible to appear in the examination.
(3) The students will be required to attend the hospital and other duties as may be allotted to them during the course of study. All the students will be required to do House Job duties and clinical Registrar's duties in their respective departments during preliminary and final courses respectively.
(4) The students will also be required to attend special lectures, demonstrations, seminars, study tours and such other activities which may be arranged by the teaching departments.
(5) No relaxation in period of study shall be given to a candidate who has already obtained Postgraduate degree in one speciality and thereafter, desires to undergo Postgraduate course in other speciality.
(6) The teachers having a three years teaching experience can be allowed to undertake Postgraduate training as regular candidate. No relaxation in the duration of study will be made to in-service Physician/teachers.

METHOD OF TRAINING

(1) Intensive training will be given in classical knowledge along with comparative and critical study in the respective speciality.
(2) The emphasis should be given on in-service training and not in didactic lectures.
(3) The candidates are required to know about the method and technique of research work done in the respective field.
(4) The training requires in such a pattern so as to be given graded responsibility in management and treatment of patients entrusted to his care and to deal emergencies.
(5) The candidate should be required to participate in the teaching and training programmes of undergraduate students or interns in their subjects.
(6) In the first year period the emphasis should be given to give adequate knowledge in the applied aspects of the fundamental of all the subjects of Āyurveda and adequate training in the basic science of medicine in all its applied and comparative aspects relevant to the speciality concerned with special reference to the fundamentals of Āyurveda.

(7) The Clinical training should aim to extend the knowledge of the candidate to undertake independent work as a specialist.

(8) In the specialities of Shalya, Shalakya and Prasuti Tantra, the practical training should aim in eliciting knowledge on investigative procedures, techniques and surgical performance so that the candidate may be capable to undertake independent work in surgical procedures and their management in the respective speciality.

(9) The thorough and intensive training on a planned programme should be given to the students during all stages of the course and such programme should be available for the inspection and scrutiny of the Central Council of Indian Medicine.

(10) Adequate training teaching technology and research methods should be undertaken during the course of studies.

THESIS

(1) Before a candidate is allowed to undertake the work of thesis, the title of the thesis should be registered with the University within the six months of admission and the synopsis should be approved at the end of preliminary year.

(2) The application of registration of the title of the thesis should clearly mention the full title of the thesis with a synopsis of the proposed scheme of work indicating the familiarity of the candidate with the proposed theme of work and the name of the department and the name and designation of the guide/supervisor and co-guide.

(3) Once the title for thesis is approved, the candidate will not be allowed to change the title or the proposed theme of work.

(4) The registration of the candidate will be cancelled if the candidate fails to submit the title of thesis along with synopsis within the specified period as mentioned above.

(5) No candidate shall be allowed to submit the thesis before the expiry of one calendar year registration of the title of the thesis and before six months of the final year.
The subject of the thesis must be related with the subject matter of the speciality offered by the candidate.

(6) The thesis should place on record the methods and potentiality of the research carried out by the candidate on the problem selected by him and completed under the guidance of the teacher approved by the University.

(7) The thesis should consist of critical survey of relevant literature, research, results of the research discussion on the basis of existing literature on the subject, conclusion, summary of thesis and references cited in the thesis.

(8) There will a Scrutiny Committee constituted as per rules laid down by the University or in the ordinance which will scrutinize and approve the title of the thesis and proposed scheme of work submitted as per rules. The subject of every thesis should be practical oriented, devoid of unpromising specialities and should be helpful in the development of service of Āyurveda.

(9) The thesis ordinarily consist of exceeding 200 typed pages. The thesis should contain at the end a summary of not more than 1500 words covering the conclusion drawn by the candidates.

(10) The guide/supervision shall be a person of status of a Professor/Reader possessing at least five years Postgraduate teaching experience in the subject. A Professor and a Reader can guide in maximum three and two students respectively in each academic year. A Lecturer with seven years Postgraduate teaching experience can guide one candidate each academic year.

(11) The thesis must be satisfactory as regards literary presentation and suitable for publication either as such as in an abridged form.

(12) Four copies of the bound thesis together with one certificate or certificate from the supervisors or supervisor must reach the office of the Registrar three months before the final examination.
(13) The thesis shall be assessed by four examiners appointed by the University, two of them will be external and two internal. One of the internal examiners of the thesis should be the Chief Supervisor under whom the candidate has worked for the thesis.
(14) The thesis shall only be accepted after unanimous approval by the examiner appointed to examine it.
(15) If the thesis is not accepted it will be referred back to the candidate with the remarks of the examiners and the candidate can resubmit the thesis, after making necessary improvements in the light of the examiners report to the University but not beyond a further period of six months.
(16) The candidate shall be permitted to appear at II examination postgraduate degree in Ayurved consisting of theory, oral and practicals including clinical only after the thesis has been approved by the examiners appointed for the purpose.
(17) One copy of the Synopsis of the title of thesis shall be submitted to the Registrar, Central Council of Indian Medicine as soon as the title is approved. One copy of the accepted thesis will be lodged in the library of the Central Council of Indian Medicine, New Delhi.

EXAMINATION AND ASSESSMENT

The postgraduate degree shall have two examinations as follows:

1. The Preliminary examination, at the end of one academic year after admission conducted by the Institution.
2. The Final examination at the end of two academic years, after the First examination.
3. The Final examination will be held after completing two calendar years after passing Preliminary examination and the candidates can avail of a maximum of two chances. The Final examination will be held twice at interval of six months.
4. No marks will be allotted in any part of the examinations. Results will be announced as passed or failed after the consideration of the results committee consisting of all the Examiners concerned in unanimously.
5. Examination will ordinarily be held in the month of May-June and October-November every year.
6. For being declared successful in the examination, the candidate shall have to pass all the subjects separately.
7. A candidate need not appear in the subsequent chances in subject or subjects if he has already been declared successful.
8. If a candidate fails in one subject only, he shall have to pass in the subject before he is allowed to appear in the final examination.
9. If the candidate fails in the theory and practical of Final examination, the candidate can appear at subsequent examination without requiring to submit a fresh thesis.
10. The postgraduate degree shall be conferred on the candidate after the acceptance of the thesis and after the candidate as passed the final examination in the speciality by the candidate.

ASSESSMENT

11. (a) The examination should be aimed to test the candidate's clinical acumen and his ability and working knowledge in the practical aspect of the speciality and willingness to work independently as a specialist. (b) The final examination should aim at a careful and searching assessment of the competence of the candidate in Ayurvedic and scientific literature and should be accordingly judged. (c) The viva-voce part of the examination should be extensive and involve the discussion on any aspect of the speciality.

SUBJECTS

(A) *Preliminary Examination* The Preliminary Examination at the end of one academic year after admission shall be in the following subjects:

1. Medical Statistics and Research Methodology.
2. Fundamentals of Non-clinical subjects of Āyurveda with an emphasis on Applied aspects along with relevant studies of fundamentals of basic Science of Medicine.
3. Fundamentals of Clinical subjects of Āyurveda, with emphasis on applied aspects along with relevant studies of Fundamentals of basic Science of medicines.
4. The candidate shall have to go the training in the department concerned for the speciality opted by the candidate as under:
   (a) Regular clinical training in the Hospital.
   (b) Practical training of research work carried out in the department.
   (c) Study of literature related to speciality.
   (d) Active participation in various Seminars, Symposia and Discussions.
   (e) Finalization of Topic of thesis and synopsis thereof. The assessment of the work done during the first year on the above points shall bee done at the time of Preliminary examination.

(B) *Final Examination* The Final Examination shall consist of (i) Thesis (ii) Written papers (iii) Clinical, Oral and Practical Examination as the case may be.

· There shall be four theory papers in each speciality and one practical/clinical ad viva-voce in any one of the speciality or group of the speciality selected by the candidate for special study.

SCHEME OF EXAMINATION

The scheme of the preliminary examination and final examination followed by practical/clinical/oral examination shall be as detailed below:

CRITERIA OF EXAMINERS

1. The examiner shall not be appointed for a period of more than three years at a time. He may be reappointed after an interval of two years.
2. The examiner must have a teaching experience of Postgraduate classes in the subject. Five years PG teaching experience for Professor and Reader and seven years PG teaching experience for Lecturer is essential.

MEDIUM OF INSTRUCTION

Medium of instruction shall be Hindi, English or Sanskrit, Preference should be given to Sanskrit.

MINIMUM REQUIREMENT FOR POSTGRADUATE DEGREE TEACHING CENTRE

1. The Centre must satisfy the minimum requirements for Undergraduate training as prescribed by the Central Council of Indian Medicine and in addition must fulfil additional requirement of Postgraduate training depending on the type of work covered out in the department.
2. Facilities regarding training in Basic Science of Āyurveda and Medicine related to the subjects of training as recommended by the Central Council of Indian Medicine should be provided.
3. All the facilities of ancillary department should be available for co-ordination of training.
4. The institution should have adequate equipments and research facilities in the related speciality and subject.

5. The institution should have adequate equipments and research facilities in the related speciality and subject.
6. The institution must have a fully equipped hospital consisting of at least 150 beds with adequate facilities in specialities. However, there should be 10 beds per student in the clinical subjects.

FACILITIES FOR POSTGRADUATE STUDENTS

The stipend and contingency should be provided at the rates prevailing in the State for other medical Postgraduate students. The Council shall regard it an essential facility which should invariably be provided to Postgraduate students in the subjects of Āyurveda.

STUDENT-TEACHER RATIO

The student-teacher ratio should be such that the number of Postgraduate teachers to the number of Postgraduate students admitted per year be maintained at 1:1. Where the number of Postgraduate teacher is less than 3 per unit, then the number of students should be reduced so as to keep the ratio to one student per teacher per year. It shall be applicable also where the posts are lying vacant and the number of students admitted shall not exceed to the above mentioned yardstick.

The extra staff required for conducting Postgraduate course in addition to the prescribed under the minimum Standards and Requirements laid down for Undergraduate course shall be as follows (Department wise):

	Name of Department	*Professor*	*Reader*	*Lecturer*
1.	Ayurved Sidhanta and Darshan	1	2	4
2.	Samhitas	1	3	3
3.	Rachana Sharir	1	2	4
4.	Kriya Sharir	1	2	4
5.	Dravya Guna Vigyan	1	2	4
6.	Ras Shastra	1	2	4
7.	Bhaishajya Kalpana	1	2	4
8.	Prasuti Tantra and Stri Roga	1	2	4
9.	Kaumar Bhritya	1	2	4
10.	Kayachikitsa	1	3	4
11.	Swasthavritta	1	2	4
12.	Rog Nidan, Vikriti Vigyan	1	2	4
13.	Manovigyan	1	2	4
14.	Shalya Tantra	1	2	4
15.	Shalakya Tantra	1	2	4
16.	Panchakarma	1	2	4

Note:
1. The teacher involved in Postgraduate teaching shall necessarily be recognized by the University as Postgraduate teacher in specific subject.
2. Wherever necessary the help of experts belonging to other disciplines may be taken.
3. In clinical department one Register should be appointed for 20 indoor beds.

QUALIFICATIONS FOR POSTGRADUATE TEACHERS

1. The person should possess Postgraduate degree in the subject.
2. For the post of Professor, the teaching experience in the subject in Postgraduate degree course of seven years shall be required.
3. For the post of Reader, the teaching experience in Postgraduate course in the subject for five years as Lecturer shall essential.
4. For the post of Lecturer, the person should possess the Postgraduate degree in the subject along with three years teaching experience in the subject in a recognized Undergraduate institution of a University.

CRITERIA FOR RECOGNITION

The postgraduate courses in any department in any institution can not be started by any University or body without having prior permission of the Central Council of Indian Medicine, New Delhi. The following criteria is to be fulfilled prior to getting recognition by the CCIM.

1. A Postgraduate course shall be started in a place here. Undergraduate course already exists.
2. The institution must satisfy the minimum requirements or Undergraduate training as prescribed by CCIM.
3. Facilities regarding clinical training, research facilities teaching staff and equipments, etc., as laid down by CCIM for the related specialities.
4. The hostel facility to all the Postgraduate boys and girls students.
5. The qualification laid down for teaching staff is to be essentially fulfilled.
6. Facilities of stipend and contigency fund must be the same as admissible to the Postgraduate students of medical PGs of the State.
7. Modifications and additions cannot be made in the syllabus, pattern of examination, and on other matter laid down by CCIM in the Curriculum and Syllabus.

Sd/-
Secy.
Central Council of Indian Medicine
New Delhi

Appendix–III

TOTAL CHAPTERS IN MAJOR TEXTS OF ĀYURVEDA

1. Charaka Samhitã (CS)

Sections	*Names*	*Abbreviations*	*Chapters*
I.	Sutrasthãna	Su	30
II.	Nidãnasthãna	Ni	8
III.	Vimãnasthãna	Vi	8
IV.	Sãrirasthãta	Sã	8
V.	Indriyasthãna	In	12
VI.	Chikitsãsthãna	Ch (Ci)	30
VII.	Kalpasthãna	Ka	12
VIII.	Siddhisthãna	Si	12
		Total	120

2. Susruta Samhitã (SS)

Sections	*Names*	*Abbreviations*	*Chapters*
I.	Sutrasthãna	Su	46
II.	Nidãnasthãna	Ni	16
III.	Sarirasthãna	Sã	10
IV.	Chikitsãsthãna	Ch	40
V.	Kalpasthãna	Ka	8
VI.	Uttarasthãna	Ut	66
		Total	186

3. Astãnga Samgraha (AS)

Sections	*Names*	*Abbreviations*	*Chapters*
I.	Sutrasthãna	Su	40
II.	Sãrirasthãna	Sã	12
III.	Nidãnasthãna	Ni	16
IV.	Chikitsãsthãna	Ch	24
V.	Kalpasthãna	Ka	8
VI.	Uttarasthãna	Ut	50
		Total	150

4. Astãnga Hridaya (AH)

Sections	*Names*	*Abbreviations*	*Chapters*
I.	Sutrasthãna	Su	30
II.	Sãrirasthãna	Sã	6
III.	Nidãnasthãna	Ni	16
IV.	Chikitsãsthãna	Ch	22
V.	Kalpasthãna	Ka	6
VI.	Uttarasthãna	Ut	40
		Total	120

5. Sãrangadhara Samhitã (SaS)

Sections	*Names*	*Abbreviations*	*Chapters*
I.	Purvakhanda	PK	7
II.	Madhyamkhanda	MK	12
III.	Uttarakhanda	UK	13
		Total	32

Bibliography

1. Astãnga Hridaya (1925): *Commentary by Arundatta*, Ed. 5th, Nirnaya Sãgar Press, Mumbai.
2. Astãnga Samgraha (1945): Edited by Gobardhan Chãngãni, *Chowkhambã Sanskrit Series*, Vãrãnasi.
3. *Ayurvedic Formulary of India* (part I): 1st Edition, Ministry of Health and Family Planning, Govt. of India.
4. Bãgchi, P.C. (1939): *Studies in the Tantras*, Calcutta.
5. Banerji, D.N. (1951): *Ãyurveda Shãrira* (Vol.I), Industry Publishers Ltd, Calcutta.
6. Bannerman, Robert H. (1983): *Traditional Medicine and Health Care Coverage*, WHO, Geneva.
7. Bernard, Theos (1995): *Hindu Philosophy*, 3rd Jaico Impression, Jaico Publishing House, Mumbai.
8. Bhaisajyaratnãvali (1951): *Commentary by Ambikã Dutt Shastri*, Chowkhambã Sanskrit Pustakãlaya, Vãrãnasi.
9. Bhattãchãrya, Shivkãli (San 1396): *Chiranjiv Banausadhi*, 1 to 10 Vol., Ãnanda Publishers Ltd, Calcutta.
10. Bhãv Prakãsh (1995): Motilal Banãrsi Das, Vãrãnasi.
11. Bhãv Prakãsh Nighantu (1969): Edited by K.C. Chunekar, Chowkhambã Vidyã Bhawan, Vãrãnasi.
12. *Chakradatta* (1961): Edited by Jagadishwar Tripãthi, Ed. 3rd, Chowkhambã Sanskrit Series Office, Vãrãnasi.
13. *Charaka Samhitã* (1941): *Commentary of Chakrapãni*, Edited by Jãdavji Tikramji Ãchãrya, Ed. 3rd, Nirnaya Sãgar Press, Mumbai.
14. *Charaka Samhitã* (1949): Edited by Gulabkunverba Ãyurvedic Society, Vols I-VI, Jãmnagar.
15. *Charaka Samhitã* (1980): A Scientific Synopsis, written by P. Ray and H.N. Gupta, Ed. 2nd, Indian National Science Academy, Delhi.
16. Chopra, R.N. *et al.* (1986): *Glossary of Indian Medicinal Plants*, PID, CSIR, Government of India, Delhi.
17. Devarãj, T.L. (1980): *The Panchakarma Treatment of Ãyurveda*, Dhanwantari Oriental Publications, Bangalore.
18. Gheranda Samhitã (1957): *Gangãvishnu Srikrishnadãs*, Laxmivenkateswar Steam Press, Mumbai.
19. Ghosh, E.N. (1924): *A Peep into the Ayurvedic System of Sphygmology*, J. of Ayurveda I, 43-49, Calcutta.
20. Goraksha Paddhati (Samvat 2024): Khemrãj Srikrishandas, Mumbai.
21. Hãldar, G.P. (1945): *Vaidyak Vrittãnt*, Kãlighat, Calcuttã.

22. *Hatha Yoga Pradipikã* (1962): Published by Shri Khemrãj and Srikrisnadãs, Sri Venkateswar Steam Press, Mumbai.
23. Heyn, Birgit (1992): *Ãyurvedic Medicine: The Gentle Strength of Indian Healing,* Harper-Collins Publishers India Private Limited, Delhi (Indian Edition).
24. Kasture, H.S. (1979): *Ãyurvediya-Pancharma Vigyãn*, Ed. 2nd, Baidyanãth Ãyurveda Bhawan Ltd, Calcutta.
25. Macdonell and Keith: *Vedic Index of Names and Subject*, Motilãl Banarsidãs, Vãrãnasi.
26. *Mãdhav Nidãna* (1925): Commentary by Arundatta, Nirnaya Sãgar Press, Mumbai.
27. Majumdar, A. (1982): *Concept of Nadi in Yoga*, The Yoga Review II, 1:35-51, Vãrãnasi.
28. Majumdar, Ashok (1972): *Scientific Exposition of Jagannãth*, Paper presented at First International Sanskrit Conference held at Delhi.
29. Majumdar, Ashok (1979): *The Concept of Nãdi*, Paper presented at First National Conference on Yoga, Science and Society held at Banãres Hindu University, Vãrãnasi.
30. Majumdar, Ashok (1981): *A Study on the Nervous System in Yoga and Tantra and its Implication in Ãyurveda*, PhD Thesis, Banãres Hindu University.
31. McNaught, Ann B. and Callander Robin (1970): *Illustrated Physiology*, 2nd Ed, The Williams & Wilkins Co, USA.
32. Mooss, N.S.,*Ãyurvedic Treatments of Kerãla*, Published by Vaidya Sãrathy, Kottãyam, Kerãla.
33. Nandkarni, K.M. (1954): *Indian Materia Medica*, Ed. 3rd, Popular Book Depot, Mumbai.
34. Ojhã, D. and Kumar Ashok (1978): *Panchakarma Therapy in Ãyurveda*, Chowkhambã Amarbhãrati Prakash, Vãrãnasi.
35. *Pãtanjal Yoga Darshan* (1938): Edited by Swami Hariharãnanda Ãranya Ed., University of Calcutta.
36. *Rasatarangini* (1979): Edited by Kãshi Nath Shãstri, Ed. 11th, Motilãl Banãrsidas, Vãrãnasi.
37. *Rasa Ratna Samuechaya* (1983): Edited by Ambikãdatta Shãstri, Ed. 7th, Chaukhambã Amarbhãrati Prakãshan, Vãrãnasi.
38. *Rasendrasara Samgraha* (San 1353): Written by Srigopãl Bhatta, edited by Debendra Nãth Sen and Upendra Nãth Sen, Ed. 7th, C.K. Sen and Co. Ltd, Jabãkusum House, Calcutta.
39. Roy, A.T. (1929): *Pulse in Ãyurveda*, Ed. 2nd, Calcutta.
40. Roy, Dhirendra Nath (1937): *The Principles of Tridosha in Ãyurveda,* Calcutta.
41. Sãrangadhar Samhitã (1961): Edited by Rãdhãkrishna Parãsar, Baidyanãth Ãyurved Bhawan Pvt Ltd, Calcutta.
42. Sãrangadhar Samhitã (1966): Edited by Dayã Shankar Pandey, Ed. 9th, Chowkhambã Sanskrit Series Office, Vãrãnasi.
43. Seal, Brajendranãth (1950): *Positive Science of the Ancient Hindus*, Delhi.
44. Sen, Gananãth (San 1350): *Ãyurveda Parichaya*, Viswabhãrati Granthãlaya, Calcutta.
45. Sen, N.N. (1928): *Dravyaguna Sikshã*, Ed. 11th, Nagendra Steam Printing Works, Calcutta.
46. Sen, S.N. (1971): *A Survey of Science Materials, A Concise History of Science in India*, Indian National Science Academy, Delhi.
47. Sharmã, P.V. (1969): *Dravyaguna Vigyãna*, Ed. 2nd, Chowkhambã Vidyã Bhawan, Vãrãnasi.
48. Sharmã, P.V. (1976): *Introduction to Dravyaguna* (Indian Pharmacology), Chowkhambã Orientalia, Vãrãnasi.
49. Sharmã, Hari Prasanna: *Rasayoga Sãgar* Vol. I (in 1927) and Vol. 2 (in 1930), Shri Bhãskar Ausadhãlaya, Mumbai.
50. Shãstri, Jivrãm Kalidãs (1940): *Rasaprakãsh Sudhãkar*, Rasashãla Ãusadhãshram, Gondal (Kathiãbarh).
51. *Shiva Samhitã* (1960): Published by Khemrãj Shrikrishan Dãs, Shri Venkateswar Press, Mumbai.

52. Singh Pancham (1980): *Hatha Yoga Pradipika*; 3rd Ed. Munshiram Manoharlal Publishers Pvt Ltd, New Delhi.
53. *Srimad Bhãgavad Gitã* (san 1360): Edited by Swami Jagadãnanda, 6th Ed., Udbodhan Kãryãlaya, Calcutta.
54. *Susruta Samhitã* (1980): Commentary by Dallhana, Ed. 4th, Chowkhambã Orientalia, Vãranasi.
55. *Susruta Samhitã* (1980): *A Scientific Synopsis*, written by P. Ray, H.N. Gupta and M. Roy, Ed., Indian National Science Academy, Delhi.
56. *Susruta Samhitã* (1938): Commentary by Nibandhasamgraha Dallhana, Ed., by Nipendranãth Sengupta and Balãi Chandra Sengupta, Calcutta.
57. Svoboda, Robert E. (1992): *Ãyurveda—Life, Health and Longevity*, Ed., Penguin.
58. *Tantrasãra of Krishnãnanda Ãgamvãgish* (san 1318): Edited and Published by Panchasikha Bhattãcharyã, Ed. 4th, Calcutta.
59. *The Ayurvedic Formulary of India*, Part I (1978): Ministry of Health and Family Planning, Dept. of Health, Govt. of India, Delhi.
60. *The Useful Plants of India* (1986): PID, CSIR, Govt. of India, Delhi.
61. Trikramji, Ãcharya Yãdavji (1958): *Dravyaguna Vigyãna*, Baidyanãth Ayurveda Bhawan Pvt Ltd, Calcutta.
62. Upadhyaya, B. (1964): *Sanskrit Vãngmaya*, Sarada Mandir, Vãrãnasi.
63. Vassya, Shyam Sundar (1915): *Rasãyansãr*, Vãrãnasi.
64. Vasu, S.C. (1980): *Gheranda Samhita*, 3rd Ed., Munshiram Manoharlal Publishers Pvt Ltd, New Delhi.
65. Vasu, S.C. (1979): *Siva Samhita*, 3rd Ed., Munshiram Manoharlal Publishers Pvt. Ltd., New Delhi.
66. Vermã, Nãthu Singh (1938): *Rasatantrasãr Siddhaprayog Samgraha*, Ajmer.
67. Vivekãnanda, Swami (1976): *Rãja Yoga*, 16th Ed., Advaita Ãshram, Pithorãgarh.
68. *Wealth of India, Raw Materials* (1952): Published by CSIR Publications, Govt. of India, Delhi.
69. Woodroffe, Sir John (1972): *The Serpent Power*, Ed. 8th, Ganesh and Co., Chennai.
70. Yogaratnãkara (1955): Edited by Laxmipati Shãstri, Chowkhambã Sanskrit Series Office, Vãrãnasi.
71. Yogiyãjnavalka: Edited by Upendra Nãth Mukhopãdhyãyã, Ed. 2nd, Basumati Pvt Ltd, Calcutta.

Glossary of Sanskrit Terms

Abhishyanda Conjunctivitis of the eye

Adhimantha Roga Acute orbital cellulitis

Ãdhmãna Flatulence

Addarbhedak Migraine, Hemicrania

Agnãsaya Duodenum

Agada tantra Treatise on poisoning

Agni Fire, Biological fire

Agnimãndya (Ãmãjirna, Mandãgni) Dyspepsia

Ãgantuj vrana Traumatic wounds

Agnidagdha Burn

Ãhãra Rasa Chyle, food juice

Ahamkãra Self Ego

Ãhãra Diet

Ajirna Indigestion, Dyspepsia

Ãkriti Appearance, face

Ãkãsa Space, Ether

Adhogata Raktapitta Haematuria (blood in urine)

Akshepa Clonic convulsions

Akshibheda Pain in the eye

Akshipãka Conjunctivitis

Alasa Chilblain

Alas Sub-lingual abscess

Alpãyu Shorter span of life

Ãlochaka Form of Pitta governing vision

Ãlasya Lassitude, lethargy in the body

Amlapitta Acidity

Ãmsadãha Local burning sensation in any part of the body

Ãma Undigested food matters circulating in the blood, toxins

Ãmãsaya Stomach

Amla Sour

Ãmavãta Rheumatism

Ãmavãta Jwara Rheumatic fever

Anãha It's a condition in a disease where wind, i.e., flatus is unable to come out from upper and lower parts of the body. Here, faecal matter remains unexpelled due to constipation

Anjan Nãmikã Stye

Anyatovãta Neuralgia of the fifth Cranial nerve

Andavriddi Orchitis, Inflammation of the testis

Antariksha Ethereal

Antahkarna Inner psychic organs (Mind, Intelli gence and Ego)

Anna Food

Antarãdhi Body trunk

Anukul Favourable

Anup Marshy place

Anumãna Inference

Angamarda Prasamana Anti-bodyache

Anusandhãn Investigations

Ãntarika Jwar Typhoid fever

Annavaha Srotas Channels carrying food, Digestive system

Anuvãsana Basti Oily enema

Anavasthita chitta Mental unstability

Analaka Acid eructation, burning sensation inside

Antradãha Burning sensation in the body

Antra Vriddhi Intestinal Hernia

Anulomana Carminitive

Anuvãsanopag Sub-unctuous enemata

Apasmãra Epilepsy

Apinas Atrophic Rhinitis

Aptopadesh Sayings of seers, scientific truths

Apa/Ap Water

Aãna Vãyu Regulates pelvic autonomics, Down-ward moving neural energy below umbilicus

Apabãhuka Paralysis of the brachial plexus

Aruchi Anorexia

Arsha Piles

Ardhangvãta Hemiplegia

Ardita Facial Paralysis

Arunsikhã Eczema of the scalp, Dandruff

Arista Lakshana Signs of sure death

Arsoghna Anti-piles

Ãrtava Menstrual fluid

Ãrtava Srotas Channels carrying menstrual fluid

Arochaka Anorexia

Arbud Tumour

Asthi Bone

Asyãpãka Stomatitis

Ãsthapanapaga Sub-corrective enemata

Asava/Arista Herbal wines

Astavidh Eight types

Ãsana Yoga postures

Asabda sravana Tinnitus

Aswapna Insomnia, sleeplessness

Asmari calculus, stone

Asmarikricchra Irritation in passing urine due to stone

Asthilã Enlargement of Prostate

Asthibhanga Fracture bone

Asthivislista Dislocated bones

Asãtmya Non-agreeable

Atisãra Diarrhoea

Ãtman/Ãtmã Soul, Spirit Principle

Atipralãpa Delirium

Atisweda Excessive sweating

Atripti Morbid hunger, Non-satisfaction in food

Atisthaulya Excessive obesity

Ausadha Medicines

Avaleha Herbal jelly

Ãyurveda Science of Life and Longevity

Bãhu Upper extremity

Basti (Vasti) Urinary bladder, Enema therapy

Bala Strength

Bayah Age

Bahu Mutra Excessive Urination

Balya Tonic, which gives strength

Badhirya Deafness

Balãsaka Loss of strength

Balmic Myeloma

Bhruvyudãsa Eyebrows stretched upward

Bhãsatã Pallor of skin

Bhasmãgni Polyphagia, excessive hunger

Bhagandara Fistula-in-Ano

Bhrama Vertigo

Bheda Types, complications

Bhasma Specially incinerated mineral preparations

Bhuta Vidyã Psychiatry subject

Bilepi Gruel

Bodha Realization

Brihat-Trayi Three major Ayurvedic classical texts

Brimhania Tonification, weight promoter

Brimhaniya Drugs increasing body weight

Buddhi Intelligence

Byuchi Eczema

Charaka Samhita Ayurvedic classical text compiled by Charaka

Chardi Vomiting

Chakra Vital energy location in the body and vertebral coloum

Chikitsã Therapy, treatment

Churna Powder

Chestã Effort

Chakshu Eye

Chinna Swasha Breathlessness

Charma Keel Elevated mole

Chippa Nail Matrix

Chinnãntra Intestinal prolapse

Charma Vadarana Itching and deep cracking of the skin

Charma Roga Skin diseases

Dãha Prasamana Refrigerant

Dãha Burn, Burning Sensation

Danda Kalasa Cholera

Dandaka Tonic Convulsions

Dadru Ringworm

Dantabheda Toothache

Dawathu Burning sensation in sense organs like eye, etc.

Dhumaka Fumes coming up feeling in head, throat, pharynx etc.

Dhamani Pratichaya Thickening or Dilatation of the blood vessels

Dhãtu Tissue, substance which holds the body

Dhãranã Concentration and attention of mind

Dasavidh Ten types

Darshana System of Philosophy

Dasamula Ten roots

Dipaniya Appetizer

Dinacharyã Daily routine/regimen

Dosha Bioregulatory Principle, Disorder producing substance

Dravya Drug, Substance

Drave Liquid

Dravya Guna Pharmacology and Pharmacognosy

Dravya Guna Karma-Vigyãn Pharmacology

Drika Sight, eye

Dugdha Milk

Dushita Vitiated

Dushya Vitiated tissues

Dhwajabhanga Impotency

Ekanga Roga Monoplegia

Galaganda Goitre

Galasundi Enlarged uvula

Garbhapãta Miscarriage

Ghee/Ghrita Clarified butter

Ghrãna/Gandha Smell

Glãni Depression

Gribã Neck

Grishma Summer season

Gridhrasi Sciatica

Granthi Roga Tumour, Cyst

Grahani Sprue syndrome, chronic gastro intestinal disorder, colitis

Grihbã-stambha Rigidity of the neck muscles, stiffness of neck

Gurugãtratã Heaviness of the body

Gudabhramsa Prolapsed rectum

Gulma roga Abdominal gas swelling like tumour

Guru Heavy

Gulphagraha Sprain or stiff ankle

Gudã Anus

Gyãna Knowledge

Gyãnendriyas Sense organs

Hanubheda Dislocated or Pain in jaw

Haritatwa Greenishness, sallow skin

Haridrãtwa Yellowishness

Hãlimak Chlorosis

Hatadhimantha Last stage of Panophthalmitis

Hemanta Early winter season

Hikkã Hiccough

Hikkãnigraha Anti-Hiccough

Hridaya Heart

Hridroga Cardiac disease

Hridya Cardiotonic

Hridayopalepa Excessive secretion of mucous

Idã Nãdi All centripetal nerve force energy channel associated with left nasal passage

Jãnubheda Bow legs

Jãnuvilesa Knock knee

Jatharãgni Digestive fire in the stomach

Jalagardhav Herpes simplex

Jirna Chronic, old

Jihvastambha Paralysis of tongue

Jiva Atman, Purusha, Individual soul

Jivaniya Dravyas Vitalizing drugs

Jihvã Tongue

Jwar Fever

Jwarãtisãr Diarrhoea with fever

Kãmalã Jaundice

Kanthopalepa Excessive mucous secretion in the throat

Kanthasosh Pharyngitis

Kasãyãsyatã Astringent taste in the mouth

Kathoddhavamsa Hoarseness of voice

Kaya-chikitsã Medicine branch of Ayurveda (Internal Medicine)

Kashãya Astringent, decoction

Kãma Desire

Karma Action

Katu Pungent

Kathina Hard

Kãsh Cough

Kãshahara Anti-cough

Kãla Time, period

Kãnda Stem

Karna Ear

Kanthya Beneficial for throat

Kandughna Anti-pruritic (itching)

Kati Pelvis

Karmendriya Organs of activity

Kaviraj Physician, A learned person

Kalpa-Vigyan Subject dealing with Pharmacy

Kastarajah Dysmenarrhoea

Khandostha Hare-lip

Karnãrsha Polipus of the ear

Karnanãd Tinnitus aureum

Karnapratinãha Acute Eustachian obstruction

Karna Vidãri Laceration of the ear pinna

Kampa Chorea, shivering

Kati sula Backache, Lumbago

Khalli Shaking Palsy

Kapha Slimy, mucoid type of gross substance which are waste (*malas*) of *Rasa Dhãtu*. In physiological activity, it has formative, preservative and cooling property and operates through enzymes and neuro-hormonal Bio Regulatory Principles in finer level for nourishing tissues and helps in the sustenance of body structure.

Kesabhumisphutana Fissures of the scalp, Dandruff

Khanja-Vãta Spastic paraplegia

Khara Rough

Kitta Waste product

Kilãsa Leucoderma

Klaibya Impotency

Kostha Abdomen

Kosthvaddhatã Constipation

Kosthabheda Abdominal rupture

Kotha Urticaria

Krimi Worms

Krimidanta Dental caries

Krimighna Anthelmintics, anti-intestinal worms

Krostu-Sirshak Osteoarthritis

Kshaya Phthisis

Kshata Sukra Macula cornea

Kshatodar Peritonitis due to perforation of the intestine

Kshudra roga Sixty types of minor skin diseases

Kshudra swash Breathlessness

Kustha roga Skin diseases

Kukkãsa Whooping cough

Kusthagna Anti-leprotic

Kumara-Bhritya Paediatrics and Gynaecology

Kubjatã Hunchback condition; kyphosis

Lavana Salt

Laghu Light

Langhana Fasting, therapy for weight reduction

Lauha Iron

Lasikã Watery portion in the muscles and skin

Lalãtabheda Frontal headache

Laghu Trayii Three minor ayurvedic classical texts

Likshã(Lik) Pedicular skin disease

Mridu Soft

Manda Inactive, slow, inert

Mahat Intellect

Malas Wastes

Mãmsa Fresh

Majja Bone marrow, nerve tissue

Mardana Massage

Mãnasika Mental

Madhur Sweet

Madhu Honey

Manyastambha Torticolis

Mãmsa kleda Softening and degeneration of muscular tissue

Mãmsa dãha Burning sensation in the muscles

Madhumeha Diabetes mellitus

Majjãmeha Chronic Pyuris

Mad Intoxication

Madãtyaya Alcoholism

Masurikã Variola

Mahãkustha Leprosy

Mahãbhuta Primordial Element, Building blocks of being

Mãrut Space, ether

Masurikã Small Pox

Manas Mind

Marma Vital parts of the body

Mastiska sotha Meningitis

Mantra Healing sound, secret words

Manovaha Srotas Imaginary channels carrying thoughts through various parts of the body

Medhya Brain Tonic

Medoroga Obesity

Medhrapãka Inflammation of the penis

Moola Root

Murchã Syncope

Mukhapãk Stomatitis

Mutra Urine

Mutrakrichra Dysuria, Painful micturition

Mutraghãta Obstructed micturition

Mutravahã srotas Channels carying urine, Urinary System

Mutrotsarga Stricture of urethra

Mukhamãdhurya Persistant sweet taste in the mouth

Mukhasrãva Excessive salivation from the mouth

Mutrasukra Spermatorrhoea

Mutrajathar Distended urinary bladder

Mutrãtila Incontinence of urine

Mutrãsãd Cystitis

Mukhadusikã Acne Valgaris

Madhagarbha Malpresentation of the foetus

Nashya Errhines

Nãbhi Umbilicus

Nãga (sishã) Lead

Nãdi-Parikshã Pulse examination

Nãsãsosh Dryness of the nose

Nãsãrbud Nasal Tumour

Nãsãnãha Nasal obstruction

Nasãrsha Polypus of the nose

Nãdivrana Sinus

Nãdi Means channel through which any substance or energy flows. Even the track through which Laser-Ray flows in space. The track or path through which mind or thought flows also called *manovahã-nãdi*. In the *Veda* it is termed as "stream"

Nidrãnãsh Insomnia

Nidrãdhikya Excessive Sleepiness

Nilika Blue moles

Niriyãsh Extract

Nimbu Lemon, Lime

Nidãna Cause, diagnosis

Nirmãn Constructing, creating

Niruha Vasti Cleansing enema with decoctions

Niyama Right actions or observations in Yoga practice

Nirãma Conditions without Ãma (undigested foods and toxins)

Nimitta Kãrana Causative factor

Nyãya Darshana One of the six Indian systems of Philosophy

Ojas Vital energy reserve of the body and mind. Prime energy of the body

Osa Heat stroke, intense burning sensation with sweating

Pãrad (Pãrã) Mercury

Paksãvyãdha Hemiplegia

Pãrusya Hardness or Harshness

Prameha Anomalies of urinary secretions

Pãmã Itching, scabies

Paramãtmã Universal soul

Parikshã Examination

Pakvãsaya Colon and Rectum

Parinãm Result

Pãchan Digestion

Pãchak Digestive

Panchabhuta/Panchamãhãbhuta The five basic building blocks of existence or being. Five basic elements of creation

Patra Leaf

Pãlitya Otorrhoea

Pravãhikã Dysentery

Pãchakãgni Digestive fire

Pancha-karma Five body cleansing actions through vomiting, enema, purgation, blood letting and nasal medication

Prãna Life factor, indicator of life. Air inhaled having oxygen helps to give life to foetus whose lungs remains in collapsed state before delivery or birth

Prãnã The term is often used for breath or breathing also

Prãna-kriyã Activity of the whole nervous system due to whose activity life is sustained

Prãna-kendra Respiratory centers in the brain

Prãna-sakti Life force or energy (*Vãyu* or *Vãta*). In Chinese it is called energy 'chi'

Prãna-Vãyu The inspiratory pull occurred due to stimulation of the respiratory centers due to which air enters into the lungs to start breathing and maintain life. It regulates the cerebro-spinal system

Padãrtha Matter

Pãrthiva Earthy

Pãndu Anaemia

Palit Greying of hair

Padmini Kantak Papilloma of the skin

Pãshãnagardhav Paratitis, mumps

Pãkatyaya Hypopyon ulcer

Parilehi Rodent ulcer of the Pinna

Pãdaharsha Paraesthesia of the feet

Parvani Phlyctenular conjunctivitis

Phala Fruit

Phãnt Infusion

Pingalã All centrifugal nerve force energy channels associated with right nose channel

Pitta Bilious or Bile like is the gross characteristic substance which are *Malas* (waste) of *Rakta Dhãtu*. In physiological activity, any substance which produce heat (*Agni*) is called *Pitta*, which is responsible for metabolism, combustion, etc., and operates through enzymes and neuro-hormonal Bio Regulatory Principles in finer level to help break food substances

Picchila Slimy

Pittãsaya Sula Biliary colic

Plihodar Splenomegaly

Pothaki Blepharitis

Poshan Nourishing

Prameha-pidikã Carbuncle

Pralãp Delirium

Prasupti Numbness of the part

Prakãsh Glow, light

Prakopa Excitation

Prasãra Spreading

Pratyaksha Observation

Pratyãhara Control of senses and mind

Prãnãyãma Breath control exercise

Prashna Questioning

Prabhava Specific property (of a drug)

Prakriti Constitution of the body and temperament

Putimukhatã Foetid smell from the mouth

Pujã Worship

Purusha Spirit principle in the body, inner-self

Purisha Faeces

Puyãlas Dacrocystitis

Putikarna Chronic otitis media

Putinãhã Ozena, foul smell from nose

Puyashrãv Nasal pus discharge

Purisãdhãna Receptacle for faeces

Puspa Flower

Pakshãghãta Paralysis

Phiranga Roga Syphilis

Prithvi Earth

Pittadharã kalã Mucous membrane between stomach and duodenum

Pancha-Prãna Five types of *Vãyu* or *Vãta* responsible for the sustenance of life (*Prãna*), activating *Pitta* and *Kapha* principles through the activities of the autonomic nervous system

Raktashrãv Bleeding

Raktavikãr Blood disorder

Rãtrandha Night blindness

Rajyakshmã Tuberculosis

Ratamandala Red wheals

Raktapitta Haemarrhagic disease

Rakttakotha Urticaria

Rakta Blood

Rasa Taste, Chyle, Mercury

Rasanã Tongue

Rasãyana-Tantra Geriatrics subject

Rasãyana Herbal tonic, Rejuvenatic substances

Rãjas Activity

Rakta-Pradar Menorrhagia

Rãga Anger

Rogi Patient

Roga Disease

Roga-shãnti Relief from disease

Roupya Silver

Romãntika Measles

Rohini Diptheria

Ruksha Dry

Rupa Signs and symptoms

Ritucharyã Seasonal reigemen

Sakti Energy, force

Sad-Rasa Six types of tastes—sweet, sour, salty, pungent, bitter and astringent

Sangyãsthãpana Rasusciative

Sãrira Body

Sãluka Adenoids

Samsodhana/Sodhana Eliminative therapy

Samsamana/Samana Palliative therapy

Sanchaya Congestion, accumulation

Sat-kriyãkãlas Six stages of the spread of disease

Sakthili Lower extremity

Sarat-kãla Autumn season

Sara Fluid

Sãndra Dense, solid

Sattwa Essence

Sãra-parikshã Nutrition examination

Sãtmãsãtmeya Agreeable

Samprapti Pathogenesis

Sandhãniya dravyas Healing drugs

Shãlãkya-tantra Subjects dealing with ear, nose, throat and teeth

Shabda Sound

Shalya-tantra Subjects dealing with surgery

Shiro-gribrã Head and neck

Sita (Shita) Cooling, cold

Sirah Head

Siktãvartma Herpes ophthalmicua

Sirãjãl Pannus, vascular, kerãtitis

Sitapitta Urticaria

Siddhi Psychic power, success

Sirãsanga Venous thrombosis in cornea

Slesmodgirana Mucous expectoration

Slakshana Smooth

Smriti Memory

Sneha Oily, oil massage therapy

Snigdha Oily

Slipad Filariasis

Soma Roga Polyuria

Shonita Blood

Slesmã Kapha, mucoid, cementing substance

Sotha Oedema

Sonila-stambhana Haemostatic

Sosha Consumption

Sotha Roga Dropsy

Srotra Ear

Sruti Vedas

Srotas Different channel systems or physiological systems

Sramahara Energy compensator

Sthula Gross, heavy

Sthiti Inertia

Sthãna-sansraya Localization

Stanya Breast milk

Stanyajanana Galactogogue

Sthira Motionless

Stana Roga Breast disease

Sula Colic

Suk Roga Diseases related to penis

Sukrajanana Semen promoting

Sukhakãrak Pleasing

Sutra Axion, used in the Vedic teaching

Sukra Semen, reproductive fluid

Susruta-samhitã Susruta's treatise dealing with surgery

Suddha-sukra Corneal opacity, clear semen

Sulãrkma Conjunctival opacity

Suskakãkshipãka Ophthalmitis

Sulaprasamana Intestinal anti-spasmodic

Suvarna/swarna Gold

Sukravaha srotas Channels dealing with reproductive system

Swedana Fomentation, steam or sweating therapy

Swasthvritta Regime promoting health

Swãstha Health

Sweta-pradar Leucarrhoea

Swãsh-roga Asthma

Swasanak Sannipãta Pneumonia

Sweda Sweat

Swathuhara Antiphlogestic

Swãsh-hara Anti-dyspnic

Swarabheda Hoarse voice

Shyãvadanta Necrosed tooth

Sparsha Touch

Sroni Hip bone

Sonita kleda Pernicious anaemia

Sanniruddha guda Stricture of anus

Smriti bhramsa Loss of memory

Tandrã Drowsiness

Tãlupãka Ulceration of the palate

Tãlu-pidikã Abscess of the palate

Tamak-swasha Bronchial Asthma

Tail/Tel Oil

Tãmas Inertia, inactive

Tãmra Copper

Tattwa (Tattva) Principles of cosmic evolution

Tantra Texts, Medieval vedic workshop, mantra and rituals

Taijasa Fiery

Tanmãtrã Subtle elements of perception like scent, flavour, form, palpability and sound

Tejas Fire

Timir Partial loss of vision or Ameurosis

Tilakãlak Non-elevated mole

Tikshãgni Increased appetite

Tikta better

Tikshna Active, sharp

Tridosha Three basic bioregulatory active principles in the body for the sustenance of life.

Trishnã Thirst

Tripti No feeling of hunger, feeling of full abdomen

Trishnãdhikya Excessive thirst

Trikagraha Hunch-back condition, kyphosis

Udara Abdomen

Udara roga Disease of the abdomen

Udãna-vãyu Regulates respiratory autonomics, responsible for voice production

Udakameha Polyuria

Udara sula Abdominal colic

Udarda Urticaria

Ucchaisruti Hard of Hearing

Udãvarta Caused by retention of gas in the bowel (Tympanitis), regurgitation

Udaravesta Griping pain in the stomach

Udgãra Blenching

Udara krimi Intestinal warms

Unmãda Madness, schizophrenia

Upasaya Therapeutic test

Upadrav Complications

Upajihvã Ranulã

Ushna (usna) Hot

Ushavãta Blood in urine with irritation

Usmãdhikya Very high temperature

Uras Thorax, Thoracic cavity

Urusthambha Paralysis or stiffness of the thigh

Urograha Hypertrophy of the liver and spleen

Urastoya Pleurisy

Upadamsa Venereal disease

Vati Pill

Vanga (Rãngã) Tin

Vãtaslesmic jwar Influenza

Vãta-rakta Gout

Vaidya Ayurvedic physician

Vãjikarana Aphrodesiac

Vamana Emesis, therapeutic vomiting

Vãyaviya Airy

Vartamarbud Tumour

Vãta vasti Retention of urine

Vãtasthilã Enlargement of prostate or cancer prostate

Vartma stambha Rigidity of the eyelids or ptosis of the eyelid

Vartma samkocha Retracted eyelids or eutropion

Vãksanga Lulling speech or unable to speak properly

Vãyu Anything which moves is called *Vãyu*. External air is *Vãyu* and energy or force moving in the body is also *Vãyu*. Both have moving quality

Vãta It is the motive energy operating in the human body, it consists of two basic elements *Akash* (ether) and *Vãyu* (air). It is also called motive bioregulatory principle in the body. *Vãyu* term is often used for *Vãta* in Ayurveda. In Chinese it should be called as 'chi'

Varshã Rainy season

Vasanta Spring season

Varna Complexion

Vardhan Developing

Vedas Most ancient books of knowledge

Vedãnta Culmination of the *Vedas* in the philosophy of self-realization

Vepathu Shivering or tremor

Visuddha Pure

Visuchikã Cholera

Vishvãchi Radial nerve neuritis or palsy

Visada Clear, transparent

Vikriti Diseased state

Visam jwara Malaria, typhoid and pneumonia

Visãda Unhappiness or hot pleased

Vidãha Burning sensation in hand, feet, etc.

Vidagdhajirna Biliary dyspepsia

Vicharchikã Eczemã

Visarpa Erysepelas

Vidãha Irritation

Vidradhi Abscess

Virechana Purgative

Visagna Anti-poison

Virya Healing potency in a drug

Visphotak Pemphigus

Vipãka Final stage of taste after digestion of foods and drugs. Post-digestive condition of the food-stuffs

Visesh Special

Visistha Specific

Vyakti Excited; the stage of manifestation

Vyãdhi Disease

Vyom Space, ether

Vyãn-Vãyu Regulates circulatory autonomics

Vrana Ulcer

Vriddhi Ròga Hernia

Vãjikarana Drugs toning sex organs

Yasad (Jastã) Zinc

Yama Yogic attitudes, yoga teaching on social behaviour

Yakrit-vriddhi Enlargement of liver

Yakritodara Hepatomegaly

Yukã Lice

Yush Soup

Yoni Vagina

Yoga Psychophysical practices aimed at self-knowledge